A Study of the Library Knowledge of a Sample of Freshmen Students Enrolled at the University of Puerto Rico for the School Year 1980-81

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Western Michigan University

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A STUDY OF THE LIBRARY KNOWLEDGE OF
A SAMPLE OF FRESHMEN STUDENTS
ENROLLED AT THE UNIVERSITY OF PUERTO RICO
FOR THE SCHOOL YEAR 1980-81

Sarai Rodriguez de Perez, Sp.A.
Western Michigan University, 1981

The purpose of this study was to collect data that could help assess the library needs of a sample of college freshman enrolled at the University of Puerto Rico for the school year 1980-81.

Data were collected by means of a 50 item library test and 8 survey type questions.

As indicated by the test scores and by the students' answers to the survey questions: library instruction is needed in six of the seven subject areas covered by the library test and in all the subject areas specified by the questionnaire; library instruction is needed by 75% of the freshmen students participating in this study; there is a need for library assignments which require and teach the use of the library; instruction on the use of the library is needed most by the students enrolled in the first level Spanish courses and by the students from outside the San Juan Metropolitan area.
ACKNOWLEDGMENTS

The investigator wishes to express her appreciation to the following people who have contributed to the realization of this project.

Special mention is hereby made to: Jean Lowrie, Ph.D., Director of the School of Librarianship at Western Michigan University and graduate advisor of the investigator whose interest and support was an inspiration; to project advisor James Rice, Ph.D., for giving encouragement and wise suggestions; to Hardy Carroll, Ph.D., member of the project committee who made constructive suggestions, and had "the solution" at a most critical time; to Peter Malanchuk, Norman Frankel and David Isaacson, librarians at Western Michigan University, for reviewing the testing instrument and giving constructive comments; to Arturo Fernández, director of the School of Librarianship at the University of Puerto Rico who acted as liaison between the investigator and the University of Puerto Rico where the study was conducted, and showed great interest in the project; to the administrators of Antillian College who gave their support to this project by allowing the investigator time to work on the project; to Vernon Esteves, Ph.D., Dean of Studies at the University of Puerto Rico for granting the authorization to conduct the study; to Doris Frankie, Miriam Visot, and María T. Socorro, for giving their approval to the proposed study; to Provi Hernández for being so cooperative; to professors José Luis Vives, Rafael González, Norma Urrutia and Nieves Padilla who so
kindly permitted the investigator to administer the data gathering instrument to the sample chosen; to many others who, although not mentioned by name, contributed in some way to the completion of this project.

Thank You All!

Saraí Rodríguez de Pérez
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UNIVERSITY OF PUERTO RICO FOR THE SCHOOL YEAR
1980-81.

WESTERN MICHIGAN UNIVERSITY, SP.A., 1981

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CHAPTER I

INTRODUCTION

Library tours, lectures, handbooks, printed guides, formal library courses, point of use library instruction, and audiovisual aids of various kinds are all methods used by those concerned with library instruction and orientation at institutions of higher education to reach the potential library user. But, what is it that library users really need to know? How elementary or sophisticated is their knowledge of the library? In order to find some answers, an assessment of the bibliographic knowledge exhibited by library users is necessary. Lubans, who has written much about library instruction, says that findings indicate a very low knowledge of bibliographic skills among college students.

Anspaugh gives a clue as to where to begin. He says, "It is important to begin library instruction at a point the students are capable of understanding and to proceed at a rate that prevents boredom and frustration." Testing for library use competency will yield results in this respect. Lubans indicates, "Probably the major errors in basing programs only on perceived need is the redundancy inherent

1. This term refers to the provisions of library instruction at the place and time of the actual need.
in such an approach and that such a shortsighted view does not generally get to the many information use problems." It is not until the need has been assessed that library instruction can begin.

**Statement of the Problem**

Students entering institutions of higher education are lacking basic library knowledge. Therefore, students' library knowledge must be assessed in order that adequate provisions be made for orientation and instruction as needed.

Lowrie is aware of the situation when she states, "Many of our young people come from elementary and secondary school systems where they have had the thinnest of library services . . . . Indeed, at the elementary level the chances are good that there was no introduction to library services because a library did not exist in the school . . . ."

Some schools in the Puerto Rico School System exemplify the above statement. De León states:

- Only a third part of the schools in Puerto Rico have libraries.
- The libraries been [sic] organized annually must be kept closed because of the need of librarians' positions.
- One librarian . . . has to serve the enrollment in some


5. Jean Lowrie, "Are Your Grassroots Crabgrass--Or Do You Need Professional Crabicide?" p. 58.
high schools that surpass the two thousand students.  

With such a situation in Puerto Rico's schools it is expected that some students get to college with library deficiencies which must be corrected promptly if they are to succeed in their college career. A needs assessment should be done first and library instruction should then be offered accordingly.

**Purpose of the Study**

The purpose of this study was to yield data that could help assess the library needs of a sample of college freshmen enrolled at the University of Puerto Rico (U.P.R.) for the school year 1980-81. This was done by determining the following:

1. The subjects' knowledge on specific areas of library instruction covered by the data gathering instrument.
2. Previous library instruction received by the subjects and their felt need for library instruction.
3. The library use pattern of the subjects.

**Importance of the Study**

This study is important for the following reasons:

1. It reveals the library instruction needs of the students with specific information about the areas of library knowledge where instruction is needed and the degree of help which is needed in each area.

2. It reveals data about library use, library instruction received by the subjects, and library instruction needs of the subjects as perceived by them.

3. It reveals the need for library instruction programs at the University level.

4. It reveals the need for library instruction programs at the elementary and secondary school levels.

**Definition of Terms**

**Library Orientation**

Introduction to the library, to locations of essential areas and resources, and to the services provided by librarians.

**Library Instruction**

The communication of knowledge about how to use the library resources with detailed information on facts, procedures, etc.

**Assessment of Library Knowledge**

The collection of data to determine what knowledge the students has about the library.

**Limitations of the Study**

This study is limited in the following ways:

1. Only three per cent of the freshmen population is represented in the study.

2. The Library Knowledge Test is not inclusive of all the
knowledge required for the proper use of a college or university library.

3. The Library Knowledge Test is not standarized or normalized.

4. The language barrier of the sample tested has limited the amount of English reference sources included in pertinent items of the test.7

7. Puerto Rico is a Spanish speaking country and English is taught as a second language.
CHAPTER II

LITERATURE REVIEW

Importance and Need for Library Instruction

The subject of library orientation and instruction has been written about a great deal. Library professionals have shown their concern about the subject throughout the years. Early in the century, literature was written indicating the need for instruction on the use of the library;\(^1\) courses on the use of the library were developed;\(^2\) and new ways of teaching the subject were used.\(^3\) The assessment of library knowledge was also a part of the library instruction developments.\(^4\)

The trend of concern for library instruction at the academic level has continued to increase. The last decades have seen the surge of: the Conference on Library Orientation, the LOEX (Library Orientation Exchange) Clearinghouse, the Academic Bibliographic Instruction Task Force, and of new methods of instruction using

the latest technological developments etc. Some develop new programs; some, new methods; others report about their experiences in library instruction.

Even while all this activity was taking place in the area of library instruction, a survey taken by Melum in 1971 revealed "... that library instruction is needed now more than ever before and that there is keen interest in finding new ways of meeting the needs of today's students." 

Passarelli and Abell state that "A need exists for undergraduates to learn independent study skills to cope with the expansion of information that faces them now and will continue to occur during their lifetimes."

There is a consensus of opinions as to the need for library instruction at the academic level. A gap needs to be filled in the area of library orientation and instruction if orientation/instruction programs are to be effective.

Many have expressed their opinions. In the 1960's when library experiments were being conducted at Montieth College, Knapp


hypothesized that "... the student is likely to acquire library understanding and competence when his experiences in the library are functionally related to the objectives and content of his subject courses and when this relationship is made manifest." 10

Woelflin says in this respect,

Library orientation programs for college freshmen leave something to be desired. Although most teachers realize this, no one seems to do much about the problem except conduct students on tours of the building while a guide points out where various books are shelved. On thinking about the matter, one can only marvel that these sessions accomplish anything at all, for beyond the superficiality they contain too many students, too little organization and virtually no relevance to latter classroom needs. 11

Whildin accuses those involved with library instruction of being responsible for the students' ignorance of the ways of the library. She says, "Most students feel they should already know how to use the library; they are embarrassed by their ignorance and feel responsible for it ... Students do not know how to use libraries because no one has enabled them to learn." 12

Kirk indicates that "Special emphasis should be placed on the importance of actively seeking out students who appear to be having problems." 13 In seeking out these students, Lubans advises against an "educated guess or perceived need." He says, "Since we


are prompted to action by what we observe as lacking in the library users at the time of the user's need, our response is apt to be a type of bibliographic first aid..."14

Vogel presents a solution to the "educated guess", he says,

Clearly library instruction must be direct to specific kinds of students users and student expectations--not to some mythic homogenized student. A reasonably precise identification of types of students and their informational needs and library expectations is an essential part of any evaluation of library instruction... Student information-seeking behavior must be examined empirically; not only must programs be effective in teaching library skills, they must meet the needs of users and meet them to a greater degree than do alternative programs.15

Various levels of library instruction are identified by Goggin. She states,

First there is the orientation to the physical library, its environs, and how to use its services. Coupled with this is a modicum of library instruction needed by the beginning freshman who, in most universities, needs to cope with limited assignments involving the use of the library. Second, at the time when students select their major and start taking courses requiring the research and writing of term papers, there is need for an instructional period or series of sessions to acquaint them with the general body of literature in their subject field and the search strategies that might be employed to locate information.16

Plans must be made, objectives must be stated, and programs must be developed to meet the library instruction needs of students. Library instruction is needed, must be offered, and must be related to


16. Margaret Knox Goggin, "Instruction in the Use of the University Library," pp. 105-06.
the objectives and content of subject courses. An assessment is mandatory if library instruction programs are to meet the needs of students.

**Related Studies**

In searching for studies in the area of library instruction, it was found that a few studies have dealt with the assessment of library skills and how the performance on a test of library knowledge is related to factors such as: performance in college, academic achievement and scholastic aptitude, and to the use of the library by freshman students.

It was found that no studies which dealt with the assessment of the library needs of students had been done in Puerto Rico or at the University of Puerto Rico.

**Higher Education and Library Instruction in Puerto Rico**

Puerto Rico has approximately eighty-eight institutions of post-secondary education which are accredited by the Council on Higher Education in Puerto Rico. These academic institutions have general and

17. Felix E. Snider, "The Relationship of Library Ability to Performance in College."

18. Louise E. Riley, "A Study of the Performance on a Library Orientation Test in Relation to the Academic Achievement and Scholastic Aptitude of a Selected Group of Freshmen College Students at Tuskegee Institute."

19. Weldon Joe Horton, "Relationship of Library Skills to the Use of the Library by Freshman Community College Students."
special libraries to serve their clientele. Major public and private academic libraries serve a community of about 97,000 students, 4,050 faculty, and 10,000 others.  

Vigo-Cepeda, in writing about the services of academic libraries in Puerto Rico, says, "... the limited number of personnel restrict libraries from rendering the services demanded by the clientele and prevent libraries from satisfying the patron's information needs."  

Writing specifically about library orientation and instruction, Vigo-Cepeda indicates that "There is an urgent need in Puerto Rico to teach students about the bibliographic resources and tools." She continues to say, "... (a) the students arrive to the college or university with very little knowledge about the functions and use of the library; (b) the students lack the necessary skills to use the bibliographic tools; (c) the students need to develop skills on bibliographic research to meet their needs; (d) institutions of higher learning in Puerto Rico lack formal library use instruction programs to meet the students' specific needs."  

Citizens are also aware of the need for library instruction. In expressing their opinions about libraries and information services

22. Ibid., p. 43.
23. Ibid.
in Puerto Rico, some citizens say,

There is a lack of adequate orientation to persons on the use of books and other materials.

The development of library instruction should be intensified.

The citizens do not receive direct instruction in the use of the library from the supervisory personnel for the public libraries.

Students should be educated systematically in the use of libraries.

Courses in library instruction ought to be incorporated into the curriculum beginning at the elementary level and continuing parallel with changes in education.

The users do not have the necessary knowledge to use the library.

The University of Puerto Rico

The University of Puerto Rico is a state-funded, public, co-educational institution of higher learning. The institution is a university system composed of several campuses, university colleges, regional colleges, and other units throughout the Island.

The Rio Piedras Campus of the University of Puerto Rico is the largest of the three main campuses with a student population of approximately 25,000 persons.

Candidates for admission to the freshman class of the


26. Ibid., p. 93.
University of Puerto Rico must have a high school diploma or its equivalent from an educational institution duly accredited by the Department of Public Education of Puerto Rico. Prospective applicants for admission to the freshman year must take the Scholastic Aptitude test (verbal and mathematics) and the Achievement Tests (English, mathematics, and Spanish) which are administered by the College Entrance Examination Board. The selection of candidates is made by each institutional unit on the basis of the entrance average in descending order and on the number of spaces available at each institutional unit.\textsuperscript{27}

The College of General Studies at the Río Piedras Campus, "is essentially a freshman year faculty, inasmuch as its principal mission is receiving students coming from high school."\textsuperscript{28} The College of General Studies provides a reading room with limited library facilities. At present the library has a reference collection, a reserve book collection, and a general reading collection. The other campus libraries are available for use by the freshman students.

\textsuperscript{27} Guide to the U.P.R., 1979, pp. 57, 58.

\textsuperscript{28} General Catalogue, 1973-74; 1974-75, p. 60.
CHAPTER III

PROCEDURE

The present descriptive study seeks to determine the library needs of a sample of freshmen students enrolled at the U.P.R. for the school year 1980-81. It is expected that this study will yield data about the subjects' knowledge in seven areas of library instruction which are included as part of a library knowledge test, and provide other data which can help assess the need for library instruction.

The Sample

The chosen population for this study are freshmen students enrolled at the U.P.R., Rio Piedras Campus for the school year 1980-81. The U.P.R., Rio Piedras was chosen as the population for this study for two reasons: (1) the U.P.R. is the leading institution of higher education in Puerto Rico and (2) the Rio Piedras Campus has the greatest concentration of students. Being a public supported institution, it is likely to receive a more diversified group of college freshmen.

Once the population was identified, and in order that all the population had a chance to be represented, it was decided that the data gathering instrument would be administered through a subject course required for all freshmen. The freshmen English and Spanish language courses seemed appropriate. A decision was made to administer the instrument through the Spanish language courses.
Ninety-nine sections of freshmen Spanish courses were identified. It came to the investigator's attention that three different levels of freshmen Spanish courses were offered to college freshmen. The first level, Spanish 1, is a remedial course offered to students who have deficiencies in the language. The second level, Spanish 3, is called intermediate and is the regular Spanish language course offered to college freshmen. The third level, Spanish 5, is a course designed for honor students. From the ninety-nine groups of freshmen Spanish sections identified, nineteen groups were from the first level, sixty-eight groups were from the second level, and twelve were from the third level.

Four groups were randomly selected from the ninety-nine groups of freshmen Spanish sections. This was done as follows: slips of paper bearing the numbers of all the sections of freshmen Spanish courses were deposited in a bag. Four slips were then drawn from this bag. The sections represented by the slips were selected as the sample for the study. Substitutions of the original selection were made when a section had been closed or a professor was unable to participate with his group. Substitutions were made in the same manner described above. Two sections (12 and 21) represent the first level of freshmen Spanish courses and two sections (107 and 119) represent the second level of freshmen Spanish courses. The third level of freshmen Spanish courses was not represented in the random selection.
Development of the Data Gathering Instrument

The gathering of information for this study required the construction of an instrument that would both yield the information needed for the purpose of this study and that would be in Spanish translation. Other considerations taken when constructing the instrument were that it would be easily administered, scored, and analyzed. The multiple choice and true or false type of questions were selected for the instrument. The mentioned two types of questions were alternated throughout the instrument.

The data gathering instrument consists of fifty-eight questions. The first fifty questions test library knowledge in seven areas of library instruction. The other eight questions aim at surveying the library background that the subjects have had and at providing other information of interest for the final analysis of the data.

The following books were consulted when determining the subject content of the library test: A Library Orientation Test for College Freshmen,\textsuperscript{1} Using Books and Libraries,\textsuperscript{2} Bibliography for Beginners,\textsuperscript{3} Guide to the Use of Books and Libraries,\textsuperscript{4} Your Library:

1. Ethel M. Feagley, et al., \textit{A Library Orientation Test for College Freshmen}.
2. Ella Aldrich, \textit{Using Books and Libraries}.
3. Daniel Gore, \textit{Bibliography for Beginners}.

The Academic Bibliographic Instruction, Model Statement of objectives developed by the Association of College and Research Libraries, Bibliographic Instruction Task Force was also consulted in developing the testing instrument.

Steps in the Construction of the Test:

1. Determination of areas of library instruction that were relevant for the purpose of this study. It was determined that questions on the following areas of library instruction should be represented in the test:
   a. reference sources
   b. card catalog
   c. index to periodicals
   d. definitions and general service information
   e. written reports and bibliography writing
   f. filing rules
   g. classification and arrangement of books

2. Development of a Table of Specifications (see appendix A). The Table of Specifications was developed

5. John Lolley, Your Library.


considering the relative importance of each subject area included as part of the test.

3. Construction of test items to fit the specifications on the table.

4. Routing of the test to library experts. The review of the test by experts in the areas of library instruction, reference work, and library education (see appendix B) helped correct deficiencies of the test.

5. Translation of the test items. In translating the test, substitutions and/or adaptations were necessary. Modifications made on the test responded to the need of adapting the test items to the students' language and background.

6. Finally the instrument was corrected for proper language usage by a Spanish professor.

Pretesting the Instrument

The revised Spanish form of the testing instrument was administered to eight freshmen students attending Antillian College at Mayagüez, Puerto Rico. After the students responded to the test, the investigator reviewed each item with the group of students who had taken the test. The students' suggestions, opinions and comments were recorded for the final editing of the test. Final revisions dealt mainly with clarity in transmitting thoughts.
Administration of the Instrument

The data gathering instrument was administered by the investigator during the first week of class (Aug. 18-22, 1980) to the sample which had previously been selected. Each group participated in the regular environment of their classroom with the teacher in charge of the group present at the time and place of the administration.

Analysis of the Data

Since the main purpose of this study is to discover the library knowledge needs of the sample chosen, the analysis of the data will consider:

1. The overall test scores as revealed by the mode, mean, quartile scores and by the standard deviation of scores.
2. The average correct and/or incorrect responses to the different subject areas covered by the test.
3. The number and per cent of correct and/or incorrect responses to the different test items.

Questions 52 thru 55 of the instrument will be analyzed to discover:

1. Patterns of library use.
2. Library instruction background of the sample
3. Library instruction needs of the sample.

The following variables identified in this study are analyzed for significant differences in the mean scores.

1. Students from the second level of Spanish courses and students from the first level of Spanish courses.
2. Students completing their secondary education in private schools and those completing their secondary education in public schools.

3. Students from schools in the San Juan Metropolitan Area and students from schools in other cities and towns of the island.\(^8\)

The t-test for independent variables is used to determine the significance of the difference in mean scores. The resulting t-value is compared against a t-distribution table to determine if the difference in mean scores is significant and the level or levels at which it is found to be significant.

8. The San Juan Metropolitan Area and other cities and towns of the island will be further referred to as San Juan and Island respectively.
CHAPTER IV

FINDINGS AND ANALYSIS OF DATA

The purpose of this study is to yield data that can help assess the library needs of a sample of students enrolled at the University of Puerto Rico, Rio Piedras Campus for the school year 1980-81.

A fifty item library test was developed which covered seven areas of library instruction. Other information needed for the purpose of this study was collected by means of four survey questions (nos. 52-55) which were concerned with the use of the library facilities, library orientation/instruction received by the sample, and library orientation/instruction needs of the sample. Four other questions (nos. 51 and 56-58), geared at gathering information about the sample, have the purpose of establishing the diversity of the cluster random sample. These questions ask about the study interest of the sample, the type of school where secondary education was completed (whether private or public), the city or town where the subjects completed their secondary education and the sex of the respondents.

The questions which deal with the type of school and city or town where secondary education was completed are analyzed in order to discover significant differences in the mean scores of the subjects responding in each of the groups. The scores of the two levels of freshmen Spanish courses are also analyzed for significant differences.
in the mean scores.

In the analysis of the test items and questions of the data gathering instrument, the questions and the test items do not necessarily appear in the same order as they were presented in the test. The actual test item or question included in the instrument is displayed. The number of subjects (No.) responding to each alternative is indicated in the first column and the per cent of subjects (%) responding to each alternative is indicated in the second column. The "No Response" indication is added to those questions to which some of the subjects did not respond. The correct alternative to each test item is indicated by an asterisk.

The following considerations were taken when analyzing the responses to the test items:

1. Double or triple responses are counted towards the incorrect total.

2. Double or triple responses are counted towards the total of each incorrect alternative.

Before beginning the analysis of the library test perse, an analysis of the sample who participated in this study gives a picture of the subjects dealt with.

Analysis of the Sample

The data gathering instrument was administered to four cluster groups randomly selected from among the students enrolled in the freshmen Spanish courses at the U.P.R. The selection resulted in having two levels of Spanish courses represented in the study (two
groups from Spanish one and two groups from Spanish three). A total of 116 subjects participated in the study of which a total of 56 (48.28%) were from the first level (Spanish one) and 60 (51.72%) were from the second level (Spanish three) of Spanish courses.

Question No. 57

57. City or town where high school was completed (if out P.R., indicate the city and state).

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</tr>
<tr>
<td>Total Response</td>
<td>112</td>
<td>96.55</td>
</tr>
<tr>
<td>Total Non-Response</td>
<td>4</td>
<td>3.45</td>
</tr>
</tbody>
</table>

One hundred and twelve subjects responded to the question about the city or town where secondary education was completed. Of this total, 63 (54.31%) indicated a city or town within the San Juan area and the other 49 (42.24%) indicated a city or town of the Island. Four subjects did not respond to this question (3.45%).

From a total of 78 municipalities in Puerto Rico, 35 (44.87%) were represented in the study. The other 43 (55.13%) municipalities were not represented.
Question No. 56

56. The high school where you studied was:  No.  %

1. public 79  68.10
2. private 32  27.59
3. other: explain____________  2  1.72

No response 3  2.59

Two types of schools were identified in the questionnaire, public and private, with a third category "other" included. One hundred and thirteen subjects responded to this question of which a total of 79 (68.10%) subjects were from public secondary schools and 32 (27.59%) were from private secondary schools. Two (1.72%) subjects chose the "other" category. One of these subjects studied in the Escuela Libre de Música. The other 3 (2.59%) subjects did not respond to this question.

Question No. 51

51. Which is your field of study interest?  *No.  %

1. humanities 12  9.92
2. social sciences 3  2.48
3. education 3  2.48
4. pure and applied sciences 73  60.33
5. other 28  23.14

No response 2  1.65

*The number of subjects responding to this question exceed the total sample due to double responses.

The study interest of the sample was mostly towards the sciences with 73 (60.33%) subjects choosing the alternative that referred to the "pure and applied sciences." The "other" alternative ranked second in number with 28 (23.14%) subjects responding to it. Twenty (16.53%) of the subjects responding to the "other" alternative
did not specify preference of study interest. The other 8 (6.61%) subjects specified study interest which fell in the categories included as alternatives to the question. The "social sciences" and "education" alternatives accounted for 3 (2.48%) choices each and the "humanities" alternative got 12 (9.92%). One hundred and nineteen responses were recorded for this question with five double choices made by the subjects. Two (1.65%) subjects did not respond to this question.

Question No. 58

58. Sex: No. %

| 1. male   | 56 | 48.28 |
| 2. female | 60 | 51.72 |

Finally the questionnaire yielded information about the sex of the sample. There were 60 (51.72%) females and 56 (48.28%) males represented in the sample.

Analysis of the Test

One hundred sixteen subjects responded to the test items included as the main section of the data gathering instrument. Table 1 shows the frequency distribution of scores of all the subjects taking the library knowledge test.

The highest score obtained on the test was 40 (80%) and that was scored by three respondents. A low score of 20 (40%) was obtained by two respondents. Scores 35 (70%), 33 (66%), 31 (62%), and 29 (58%) were obtained by 11 subjects each, resulting in four modes. The mean score was 32.06 (64.12%). Twenty-five per cent of the scores fell
TABLE I

Frequency Distribution of Scores of All the Students Taking the Library Knowledge Test

<table>
<thead>
<tr>
<th>Limits of X</th>
<th>X</th>
<th>f</th>
<th>c.f.</th>
<th>fX</th>
<th>$x^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.5-40.5</td>
<td>40</td>
<td>3</td>
<td>116</td>
<td>120</td>
<td>4,800</td>
</tr>
<tr>
<td>38.5-39.5</td>
<td>39</td>
<td>1</td>
<td>113</td>
<td>39</td>
<td>1,521</td>
</tr>
<tr>
<td>37.5-38.5</td>
<td>38</td>
<td>3</td>
<td>112</td>
<td>114</td>
<td>4,332</td>
</tr>
<tr>
<td>36.5-37.5</td>
<td>37</td>
<td>10</td>
<td>109</td>
<td>370</td>
<td>13,690</td>
</tr>
<tr>
<td>35.5-36.5</td>
<td>36</td>
<td>9</td>
<td>99</td>
<td>324</td>
<td>11,664</td>
</tr>
<tr>
<td>34.5-35.5</td>
<td>35</td>
<td>11</td>
<td>90</td>
<td>385</td>
<td>13,475</td>
</tr>
<tr>
<td>33.5-34.5</td>
<td>34</td>
<td>7</td>
<td>79</td>
<td>238</td>
<td>8,092</td>
</tr>
<tr>
<td>32.5-33.5</td>
<td>33</td>
<td>11</td>
<td>72</td>
<td>363</td>
<td>11,979</td>
</tr>
<tr>
<td>31.5-32.5</td>
<td>32</td>
<td>10</td>
<td>61</td>
<td>320</td>
<td>10,240</td>
</tr>
<tr>
<td>30.5-31.5</td>
<td>31</td>
<td>11</td>
<td>51</td>
<td>341</td>
<td>10,571</td>
</tr>
<tr>
<td>29.5-30.5</td>
<td>30</td>
<td>9</td>
<td>40</td>
<td>270</td>
<td>8,100</td>
</tr>
<tr>
<td>28.5-29.5</td>
<td>29</td>
<td>11</td>
<td>31</td>
<td>319</td>
<td>9,251</td>
</tr>
<tr>
<td>27.5-28.5</td>
<td>28</td>
<td>8</td>
<td>20</td>
<td>224</td>
<td>6,272</td>
</tr>
<tr>
<td>26.5-27.5</td>
<td>27</td>
<td>2</td>
<td>12</td>
<td>54</td>
<td>1,458</td>
</tr>
<tr>
<td>25.5-26.5</td>
<td>26</td>
<td>4</td>
<td>10</td>
<td>104</td>
<td>2,704</td>
</tr>
<tr>
<td>24.5-25.5</td>
<td>25</td>
<td>1</td>
<td>6</td>
<td>25</td>
<td>625</td>
</tr>
<tr>
<td>23.5-24.5</td>
<td>24</td>
<td>1</td>
<td>5</td>
<td>24</td>
<td>576</td>
</tr>
<tr>
<td>22.5-23.5</td>
<td>23</td>
<td>1</td>
<td>4</td>
<td>23</td>
<td>529</td>
</tr>
<tr>
<td>21.5-22.5</td>
<td>22</td>
<td>1</td>
<td>3</td>
<td>22</td>
<td>484</td>
</tr>
<tr>
<td>20.5-21.5</td>
<td>21</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>19.5-20.5</td>
<td>20</td>
<td>2</td>
<td>2</td>
<td>40</td>
<td>800</td>
</tr>
</tbody>
</table>

Upper Quartile = 35.23
Median = 32.2
Lower Quartile = 29.32

Modes: 35, 33, 31, & 29
Mean = 32.06
Standard Deviation = 4.08

$N = 116$
$\Sigma fX = 3719$
$\Sigma x^2 = 121,163$
below 29.32 (58.64%); fifty per cent of the scores fell below 32.2 (64.4%); and seventy-five per cent fell below 35.23 (70.46%). The standard deviation of the scores on this test is 4.08.

Definitions and General Information.

A total of nine questions on the library test are concerned with the above subject area.

Test Item No. 1

1. The part of the book which tells about the author's purpose in writing a book is called: No. %

   1. contents 1 .86
   2. preface or introduction 111 95.69
   3. title page 0 0
   4. appendix 3 2.59

No response 1 .86

By the responses to test item no. 1 it is evident that most students know about the information which is provided by the preface or introduction of a book. This item received a 95.69% correct response.

Test Item No. 2

2. A critical evaluation of a book, pamphlet or article is called:

   No. %

   1. an abstract 24 20.69
   2. the preface 19 16.38
   3. an introduction 2 1.72
   4. a review 68 58.62

No response 3 2.59

The above test item was answered correctly by 58.62% of the sample. Alternatives no. 1 and 2 received most of the other choices. An incorrect response to this test item was given by 38.79% of the sample.
Test Item No. 3

3. An alphabetical list of subjects, names, etc. in a book or group of books, with reference to the page or item number where they occur is: No. %

1. a glossary 22 18.97
2. the contents 7 6.03
*3. an index 61 52.59
4. an appendix 24 20.69

No response 2 1.72

Including the "No response," this item adds up to 47.41% of incorrect responses. Only 52.59% of the subjects know about an index.

Test Item No. 4

4. An organized list of books containing complete bibliographic information on a specific subject, of a certain type of material, of works by a particular author, or publications from one of various countries is known as: No. %

*1. a bibliography 75 64.66
2. the table of contents 9 7.75
3. a series 29 25
4. an index 3 2.59

The 75 subjects who selected alternative no. 1 above represent 64.66% of the sample. Altogether, there was an incorrect response rate of 35.34%.

Test Item No. 5

5. A concordance is:

1. a chronological list of events 42 36.21
2. an alphabetical listing of words used in a book or by a particular writer with reference to the passage in which they occur 52 44.83
*3. an alphabetical dictionary 3 2.59
4. the same as a glossary 10 8.62

No response 9 7.75
The responses to test item no. 5 were mainly distributed between alternatives no. 1 and no. 2. The correct alternative got 44.83% responses and the incorrect responses represent 47.42% which is more than half of the total response to this item.

Test Item No. 6

6. Another name for a geographical dictionary is:

<table>
<thead>
<tr>
<th></th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a concordance</td>
<td>6</td>
<td>5.17</td>
</tr>
<tr>
<td>*2. a gazetteer</td>
<td>40</td>
<td>34.48</td>
</tr>
<tr>
<td>3. a thesaurus</td>
<td>37</td>
<td>31.90</td>
</tr>
<tr>
<td>4. an anthology</td>
<td>13</td>
<td>11.21</td>
</tr>
<tr>
<td>No response</td>
<td>20</td>
<td>17.24</td>
</tr>
</tbody>
</table>

Item no. 6 had the highest rate of no response in the whole test. The 20 subjects who did not respond to this question represent 17.24% of the total sample. Incorrect responses add up to 48.28% which is more than the total correct responses and is almost half of the sample. It appears that the subjects are not familiar with the terms included as alternatives.

The average number of students answering correctly to test items about "definitions" is 67.83 (58.47%).

The true or false questions that follow are geared at discovering the students' knowledge about services offered by libraries.

Test Items No. 48-50

48. The "Government Documents" collection in a library is a highly specialized collection available ONLY to scholars doing intensive research, No. %

<table>
<thead>
<tr>
<th></th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. True</td>
<td>27</td>
<td>23.27</td>
</tr>
<tr>
<td>*2. False</td>
<td>86</td>
<td>74.14</td>
</tr>
<tr>
<td>No response</td>
<td>3</td>
<td>2.59</td>
</tr>
</tbody>
</table>

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49. Personnel in the Reference Department of a library should NOT be disturbed by the students. No. %

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. True</td>
<td>5</td>
<td>4.31</td>
</tr>
<tr>
<td>*2. False</td>
<td>110</td>
<td>94.83</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>.86</td>
</tr>
</tbody>
</table>

50. It is possible to secure material from other libraries through Interlibrary Loan. No. %

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>*1. True</td>
<td>66</td>
<td>56.90</td>
</tr>
<tr>
<td>2. False</td>
<td>35</td>
<td>30.17</td>
</tr>
<tr>
<td>No response</td>
<td>15</td>
<td>12.93</td>
</tr>
</tbody>
</table>

The above responses to items no. 48-50 reveal that 86 (74.14%) of the respondents know that the "Government Documents" collection of a library is available to anyone who needs to use it; 110 (94.83%) know that the "Reference Personnel" of a library is there to give a service; and 66 (56.9%) know about "Interlibrary Loans."

It is worth noting that a total of 50 (43.1%) subjects did not know about "Interlibrary Loans" and of that total, 15 (12.93%) did not risk a guess when responding to question no. 50. This last test item (no. 50) had the second largest rate of no response in the whole test.

The average number of respondents scoring correctly on test items no. 48-50 is 87.33 (75.28%).

The complete part on "Definitions and General Information" had an average correct response of 74.33 (64.08%) per test item (see table 2).
<table>
<thead>
<tr>
<th>Test Item No.</th>
<th>Total Response</th>
<th>% Response</th>
<th>Total No. Response</th>
<th>% No Response</th>
<th>Correct Response</th>
<th>% Correct Response</th>
<th>Incorrect Response</th>
<th>% Incorrect Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>115</td>
<td>99.14</td>
<td>1</td>
<td>.86</td>
<td>111</td>
<td>95.69</td>
<td>4</td>
<td>3.45</td>
</tr>
<tr>
<td>2</td>
<td>113</td>
<td>97.41</td>
<td>3</td>
<td>2.59</td>
<td>68</td>
<td>58.62</td>
<td>45</td>
<td>38.79</td>
</tr>
<tr>
<td>3</td>
<td>114</td>
<td>98.28</td>
<td>2</td>
<td>1.72</td>
<td>61</td>
<td>52.59</td>
<td>53</td>
<td>45.69</td>
</tr>
<tr>
<td>4</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>75</td>
<td>64.66</td>
<td>41</td>
<td>35.34</td>
</tr>
<tr>
<td>5</td>
<td>107</td>
<td>92.24</td>
<td>9</td>
<td>7.76</td>
<td>52</td>
<td>44.83</td>
<td>55</td>
<td>47.41</td>
</tr>
<tr>
<td>6</td>
<td>96</td>
<td>82.76</td>
<td>20</td>
<td>17.24</td>
<td>40</td>
<td>34.48</td>
<td>56</td>
<td>48.28</td>
</tr>
<tr>
<td>48</td>
<td>113</td>
<td>97.41</td>
<td>3</td>
<td>2.59</td>
<td>86</td>
<td>74.14</td>
<td>27</td>
<td>23.28</td>
</tr>
<tr>
<td>49</td>
<td>115</td>
<td>99.14</td>
<td>1</td>
<td>.86</td>
<td>110</td>
<td>94.83</td>
<td>5</td>
<td>4.31</td>
</tr>
<tr>
<td>50</td>
<td>101</td>
<td>87.07</td>
<td>15</td>
<td>12.93</td>
<td>66</td>
<td>56.90</td>
<td>35</td>
<td>30.17</td>
</tr>
</tbody>
</table>

Average 110 94.83 6 5.17 74.33 64.08 35.67 30.75
Written Reports and Bibliography Writing

The knowledge which is tested in this part of the test concerns with the writing of term papers and research. This subject matter included in the test is represented by five questions.

**Test Items No. 7 & 8**

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
<th>7. When selecting a topic for a term paper or research, it is very important that:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1.72</td>
<td>sufficient material is available</td>
</tr>
<tr>
<td>2.</td>
<td>1.72</td>
<td>you have a genuine interest in the topic</td>
</tr>
<tr>
<td>3.</td>
<td>0.86</td>
<td>it can be completed in the time allowed</td>
</tr>
<tr>
<td>*4.</td>
<td>95.69</td>
<td>all of the above</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
<th>8. A direct quotation taken from a book or other source of information should be acknowledged by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>9.48</td>
<td>writing a footnote indicating the source and page from where the information was obtained</td>
</tr>
<tr>
<td>2.</td>
<td>1.72</td>
<td>including the bibliographic data of the publication in the bibliography</td>
</tr>
<tr>
<td>3.</td>
<td>20.69</td>
<td>enclosing the quotation in quotation marks</td>
</tr>
<tr>
<td>*4.</td>
<td>68.10</td>
<td>all of the above</td>
</tr>
</tbody>
</table>

Correct responses for the above test items averaged 95 (81.9%). Thirty-seven (31.9%) subjects gave incorrect answers to question no. 8.

The next three questions have to do with the information which is recorded when writing a bibliography and the source of that information. No question deals with the organization of that information in a bibliographic entry.
Test Items No. 9 & 10

9. The information needed to record the bibliographic data of a book is usually found: No.  %

<table>
<thead>
<tr>
<th>Choice</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. in the table of contents</td>
<td>26</td>
<td>22.41</td>
</tr>
<tr>
<td>2. throughout the entire book</td>
<td>8</td>
<td>6.90</td>
</tr>
<tr>
<td>*3. on the title page and on the back of the title page</td>
<td>43</td>
<td>37.07</td>
</tr>
<tr>
<td>4. in the preface or foreword</td>
<td>21</td>
<td>18.10</td>
</tr>
<tr>
<td>5. all of the above</td>
<td>16</td>
<td>13.79</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>1.72</td>
</tr>
</tbody>
</table>

10. Information which is indicated in a bibliography includes but is not limited to: No.  %

<table>
<thead>
<tr>
<th>Choice</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. edition of the book at hand</td>
<td>20</td>
<td>17.24</td>
</tr>
<tr>
<td>2. name of a co-author or a joint author</td>
<td>1</td>
<td>.86</td>
</tr>
<tr>
<td>3. translator of the book</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. the publication data</td>
<td>8</td>
<td>6.90</td>
</tr>
<tr>
<td>*5. all of the above</td>
<td>87</td>
<td>75</td>
</tr>
</tbody>
</table>

In analyzing the subject response to test item no. 9, it can be noticed that many students do not know what information can be found in various parts of a book. Test item no. 9 was answered correctly by 37.07% of the respondents. Including the no response category, this test item received a 62.93% incorrect response.

Test item no. 10 received a total of 87 (75%) correct responses.

Test Item No. 11

11. A bibliographic citation for a periodical article includes: No.  %

<table>
<thead>
<tr>
<th>Choice</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. author, title, place of publication, publisher, and date</td>
<td>16</td>
<td>13.79</td>
</tr>
<tr>
<td>2. author, title of article volume, date, and pages</td>
<td>3</td>
<td>2.59</td>
</tr>
<tr>
<td>3. title of periodical, volume, date, and pages</td>
<td>7</td>
<td>6.03</td>
</tr>
</tbody>
</table>

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Subject response to the above test item reveals that 75.86% of the subjects know what information is required for a periodical article citation.

The complete part on "Written Reports and Bibliography Writing" received an average correct response of 81.6 (70.34%) (see table 3).

Classification and Arrangement of Books

A knowledge of the system used to organize books and other material on the library shelves is necessary if the arrangement is to be functional. Questions 12-14 of the library test concerns with this aspect of library knowledge.

Test Items No. 12-14

12. The letters, numbers, figures and symbols, separate or in combination assigned to library material and known as the call number indicate:

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>103</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

No response 6 5.17

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<table>
<thead>
<tr>
<th>Test Item No.</th>
<th>Total Response</th>
<th>% Response</th>
<th>Total No Response</th>
<th>% No Response</th>
<th>Correct Response</th>
<th>% Correct Response</th>
<th>Incorrect Response</th>
<th>% Incorrect Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>111</td>
<td>95.69</td>
<td>5</td>
<td>4.31</td>
</tr>
<tr>
<td>8</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>79</td>
<td>68.10</td>
<td>37</td>
<td>31.90</td>
</tr>
<tr>
<td>9</td>
<td>114</td>
<td>98.28</td>
<td>2</td>
<td>1.72</td>
<td>43</td>
<td>37.07</td>
<td>71</td>
<td>61.21</td>
</tr>
<tr>
<td>10</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>87</td>
<td>75</td>
<td>29</td>
<td>25</td>
</tr>
<tr>
<td>11</td>
<td>114</td>
<td>98.28</td>
<td>2</td>
<td>1.72</td>
<td>88</td>
<td>75.86</td>
<td>26</td>
<td>22.41</td>
</tr>
</tbody>
</table>

Average: 115.2, 99.31, .8, .69, 81.6, 70.34, 33.6, 28.97
13. A book with the call number 104.88 would be shelved between:

<table>
<thead>
<tr>
<th>Call Number</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A13 and C26</td>
<td>5</td>
<td>4.31</td>
</tr>
<tr>
<td>2. L9 and M7</td>
<td>5</td>
<td>4.31</td>
</tr>
<tr>
<td>*3. C44 and P2</td>
<td>99</td>
<td>85.34</td>
</tr>
<tr>
<td>4. D12 and A1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

No response: 7

14. A book with the call number 635.8 would be shelved between:

<table>
<thead>
<tr>
<th>Call Number</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>*1. B3 and B31</td>
<td>100</td>
<td>86.20</td>
</tr>
<tr>
<td>2. B32 and B4</td>
<td>3</td>
<td>2.59</td>
</tr>
<tr>
<td>3. B32 and B4</td>
<td>9</td>
<td>7.76</td>
</tr>
<tr>
<td>4. B33 and B331</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

No response: 4

Items 12-14 of the test appeared to be relatively easy since the correct response for each test item was above an 80% level. Test item no. 12 scored 103 (88.79%) correct responses; item no. 13 scored 99 (85.34%); and item no. 14 scored 100 (86.21%) correct responses.

An average correct response of 100.67 (86.78%) was achieved by the respondents in this part of the test (see table 4).
### TABLE 4

Summary of Responses to Test Items About Classification and Arrangement of Books

<table>
<thead>
<tr>
<th>Test Item No.</th>
<th>Total No. Response</th>
<th>% Correct Response</th>
<th>Correct Response</th>
<th>Total No. Response</th>
<th>% No Correct Response</th>
<th>Incorrect Response</th>
<th>% Incorrect Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>110</td>
<td>94.83</td>
<td>103</td>
<td>6</td>
<td>5.17</td>
<td>7</td>
<td>6.03</td>
</tr>
<tr>
<td>13</td>
<td>109</td>
<td>93.97</td>
<td>99</td>
<td>7</td>
<td>6.03</td>
<td>10</td>
<td>8.62</td>
</tr>
<tr>
<td>14</td>
<td>112</td>
<td>96.55</td>
<td>100</td>
<td>4</td>
<td>3.45</td>
<td>12</td>
<td>10.34</td>
</tr>
<tr>
<td>Average</td>
<td>110.33</td>
<td>95.11</td>
<td>100.67</td>
<td>5.67</td>
<td>4.89</td>
<td>9.67</td>
<td>8.33</td>
</tr>
</tbody>
</table>
The Card Catalog

The part of the library test about the "Card Catalog" consists of ten questions. The first seven (nos. 15-21) questions are true or false and they refer to a sample catalog card included in the test. This part of the test aims at discovering the students' knowledge of the information which is available to them by consulting the card catalog.

Test Items No. 15-21

530
B255 Bennett, Clarence Edwin, 1902-
xxiv, 252 p. il. 21 cm. (College outline series, no. 21).

"Tabulated bibliography of standard textbooks": p. ix-xvii.

1. PHYSICS--OUTLINES, SYLLABI, ETC. I. TITLE

By consulting the information on a catalog card you may know:

15. When the author of the book was born. No. %

*1. True 67 57.76
2. False 49 42.24

16. Where the book was published and who published it. No. %

*1. True 109 93.97
2. False 6 5.17
No response 1 .86

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17. What edition of the book the library has. No. %
   *1. True 94 81.03
   2. False 22 18.97

18. The subject or subjects treated in the book. No. %
   *1. True 88 75.86
   2. False 28 24.14

19. If the book includes a bibliography. No. %
   *1. True 80 68.97
   2. False 34 29.31
   No response 2 1.72

20. Where to locate the book on the shelves. No. %
   *1. True 90 77.59
   2. False 26 22.41

21. Where you may find a review of the book. No. %
   1. True 44 37.93
   *2. False 65 56.03
   No response 7 6.03

An analysis of the student response to the above test items indicates that 49 (42.24%) subjects do not know that the date after the author's name refers to birth date. Twenty-two (18.97%) subjects do not know that the card catalog has specific information about editions. Twenty-eight (24.14%) subjects do not know that what the title does not indicate about the subject of a book can be known by a quick glance to the tracings at the bottom of the catalog card. Thirty-four (29.31%) respondents do not know that catalog cards indicate when bibliographies are included in a book thus speeding their search for information. Twenty-six (22.41%) subjects appear to be unaware of the purpose of the call number typed at the upper
left hand corner of a catalog card. Finally 44 (37.93%) respondents either do not know what a review is or do not know that information does not form a part of a catalog's card entries.

The above test items (nos. 15-21) received an average correct response of 84.71 (73.03%) from the subjects.

The next questions in this part of the test yield data about the students' understanding of information which appears on "reference" cards.

Test Item No. 22

______________________________

Twain, Mark

see

Clemens, Samuel Langhorne, 1835-1910

______________________________

22. The above information written on a catalog card indicates that: No. %

*1. information will be found under Clemens, Samuel Langhorne, 1835-1910 84 72.41
2. the library does NOT have books written by Mark Twain 4 3.45
3. Samuel Langhorne Clemens is another author who has written about Mark Twain. 17 14.66
4. information is found under Twain, Mark 11 9.48

Thirty-two (27.59%) subjects do not know what a "see" reference on a catalog card indicates. Eighty-four (72.41%) subjects gave a correct response to this question.
The two questions that follow deal with forms of subject headings used in the card catalog.

**Test Items No. 23 & 24**

23. A book about the history of France would be found through the card catalog under the subject heading:

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>*3</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>49</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
</tr>
</tbody>
</table>

24. An English language dictionary would be found through the card catalog under the heading:

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>*4</td>
<td>96</td>
</tr>
</tbody>
</table>

The correct response to test item no. 23 received slightly over one-third (34.48%) of the total response. The alternative "History of France" got the highest rate of response with 49 (42.24%) subjects responding to it. It is evident that most of the respondents (65.52%) do not know the correct way to approach the subject catalog for a subject heading about the history of a country.

Test item no. 24 which also deals with the subject approach to the card catalog received more correct responses. Ninety-six (82.76%) respondents gave a correct response to this test item.

The complete part of the test dealing with the card catalog had an average correct response of 81.3 which represents 70.09% correct response per test item in this part (see table 5).
### TABLE 5

Summary of Responses to Test Items About the Card Catalog

<table>
<thead>
<tr>
<th>Test Item No.</th>
<th>Total Response</th>
<th>% Response</th>
<th>Total No Response</th>
<th>% No Response</th>
<th>Correct Response</th>
<th>% Correct Response</th>
<th>Incorrect Response</th>
<th>% Incorrect Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>67</td>
<td>57.76</td>
<td>49</td>
<td>42.24</td>
</tr>
<tr>
<td>16</td>
<td>115</td>
<td>99.14</td>
<td>1</td>
<td>.86</td>
<td>109</td>
<td>93.97</td>
<td>6</td>
<td>5.17</td>
</tr>
<tr>
<td>17</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>94</td>
<td>81.03</td>
<td>22</td>
<td>18.97</td>
</tr>
<tr>
<td>18</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>83</td>
<td>75.86</td>
<td>28</td>
<td>24.14</td>
</tr>
<tr>
<td>19</td>
<td>114</td>
<td>98.28</td>
<td>2</td>
<td>1.72</td>
<td>80</td>
<td>68.97</td>
<td>34</td>
<td>29.31</td>
</tr>
<tr>
<td>20</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>90</td>
<td>77.59</td>
<td>26</td>
<td>22.41</td>
</tr>
<tr>
<td>21</td>
<td>109</td>
<td>93.97</td>
<td>7</td>
<td>6.03</td>
<td>65</td>
<td>56.03</td>
<td>44</td>
<td>37.93</td>
</tr>
<tr>
<td>22</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>84</td>
<td>72.41</td>
<td>32</td>
<td>27.59</td>
</tr>
<tr>
<td>23</td>
<td>115</td>
<td>99.14</td>
<td>1</td>
<td>.86</td>
<td>40</td>
<td>34.48</td>
<td>75</td>
<td>64.65</td>
</tr>
<tr>
<td>24</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>96</td>
<td>82.76</td>
<td>20</td>
<td>17.24</td>
</tr>
</tbody>
</table>

Average 114.9 | 99.05 | 1.1 | .95 | 81.3 | 70.09 | 33.6 | 28.96 |
Filing Rules

The purpose of questions 25 to 27 included in this part of the test is to discover the students' knowledge of the filing arrangement used in filing the cards in the card catalog of a library.

Test Items No. 25-27

25. A catalog card with the title *La industria de la persuación*, would be found in the card catalog after: No. %

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Individualized learning</td>
<td>39</td>
</tr>
<tr>
<td><em>2. Individuals</em></td>
<td>21</td>
</tr>
<tr>
<td>3. <em>La industria religiosa</em></td>
<td>35</td>
</tr>
<tr>
<td>4. <em>Industrial and scientific French</em></td>
<td>13</td>
</tr>
</tbody>
</table>

No response 8 6.9

26. The subject heading "SPAIN--BIBLIOGRAPHY--PERIODICALS" could be found in the card catalog after: No. %

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SPAIN</td>
<td>11</td>
</tr>
<tr>
<td>2. SPAIN--ANTIQUITIES</td>
<td>8</td>
</tr>
<tr>
<td><em>3. SPAIN--BIBLIOGRAPHY</em></td>
<td>91</td>
</tr>
<tr>
<td>4. SPAIN--COLONIES</td>
<td>5</td>
</tr>
</tbody>
</table>

No response 2 1.71

27. Subject headings about the history of a country are arranged in the card catalog: No. %

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>1. chronologically</em></td>
<td>36</td>
</tr>
<tr>
<td>2. by edition</td>
<td>10</td>
</tr>
<tr>
<td>3. alphabetically by subject heading</td>
<td>50</td>
</tr>
<tr>
<td>4. alphabetically by author</td>
<td>14</td>
</tr>
</tbody>
</table>

No response 7 5.98

Questions 25 and 26 above deal with the alphabetical arrangement of subject headings in the card catalog. In order to respond correctly to these questions the subjects were required to know several filing rules used in filing cards in the card catalog.
Only 21 (18.1%) subjects knew about the alphabetical arrangement of item no. 25. This item had the third highest rate of incorrect response (75%) for the whole test. Item no. 26 which deals with the alphabetical arrangement of subdivided subject headings received 91 (77.78%) correct responses. A total of 24 (20.51%) of the subjects answered this question incorrectly. Test item no. 27 is concerned with the chronological arrangement of subject headings that deal with historical periods or dates. Only 36 (30.77%) respondents answered correctly to this test item. A total of 74 (63.25%) incorrect responses were recorded for this test item.

Altogether, items 25-27 dealing with filing rules had an average correct response of 49.33 (42.22%). The average incorrect response was 61.67 (52.92%) (see table 6).

Reference Sources.

Ten questions on the library test deal with reference sources. The first three questions refer to general knowledge about reference sources and the other seven mention specific titles as sources for the information being sought.

Test Item No. 28

28. For the explanation of abbreviations used in reference books, you should first: No. %

1. consult the glossary of the book
   24  20.69

2. ask the librarian for the meaning
   5   4.31

3. look for an abbreviations list in the same volume
   75  64.66

4. find the explanations in the card catalog of the library
   12  10.34

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<table>
<thead>
<tr>
<th>Test Item No.</th>
<th>Total Response</th>
<th>% Response</th>
<th>Total No. Response</th>
<th>% No. Response</th>
<th>Correct Response</th>
<th>% Correct Response</th>
<th>Incorrect Response</th>
<th>% Incorrect Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>108</td>
<td>93.10</td>
<td>8</td>
<td>6.90</td>
<td>21</td>
<td>18.10</td>
<td>87</td>
<td>75</td>
</tr>
<tr>
<td>*26</td>
<td>115</td>
<td>98.29</td>
<td>2</td>
<td>1.71</td>
<td>91</td>
<td>77.78</td>
<td>24</td>
<td>20.51</td>
</tr>
<tr>
<td>*27</td>
<td>110</td>
<td>94.02</td>
<td>7</td>
<td>5.98</td>
<td>36</td>
<td>30.77</td>
<td>74</td>
<td>63.25</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>111</strong></td>
<td><strong>95.14</strong></td>
<td><strong>5.67</strong></td>
<td><strong>4.86</strong></td>
<td><strong>49.33</strong></td>
<td><strong>42.22</strong></td>
<td><strong>61.67</strong></td>
<td><strong>52.92</strong></td>
</tr>
</tbody>
</table>

*This question received double response*
Seventy-five (64.66%) subjects chose the correct alternative as their response. Twenty-four (20.69%) subjects chose alternative no. 1 as their response to the question. A total of 41 (35.34%) respondents gave incorrect responses to this test item.

Test Item No. 29

29. When selecting a reference book, an important consideration should be that:

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>contributions to it have been made by subject specialists</td>
</tr>
<tr>
<td>2.</td>
<td>it is appropriate for the subject coverage of the information needed.</td>
</tr>
<tr>
<td>3.</td>
<td>the edition of the work is recent</td>
</tr>
<tr>
<td>*4.</td>
<td>all of the above</td>
</tr>
</tbody>
</table>

The above test item had a total of 98 (84.48%) correct responses. The incorrect responses totaled 18 (15.52%).

Test Item No. 30

30. In order to find general information on different universities and colleges you may consult:

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>an encyclopedia of education</td>
</tr>
<tr>
<td>2.</td>
<td>a dictionary of education</td>
</tr>
<tr>
<td>*3.</td>
<td>a directory of education</td>
</tr>
<tr>
<td>4.</td>
<td>a bibliography of education</td>
</tr>
<tr>
<td>5.</td>
<td>a manual of education</td>
</tr>
<tr>
<td>No response</td>
<td>5</td>
</tr>
</tbody>
</table>

The correct response to test item no. 30 required a knowledge of the kind of information found in different types of reference sources. The correct alternative (no. 3) received a total response of 71 (61.21%) subjects. The alternative with the second largest number of responses was no. 5 with 25 (21.55%) subjects responding to it. Incorrect responses totaled 40 (34.48%) for the above test item.
Test items that follow (31-37) refer to specific reference sources. Questions in this part of the test deal mainly with biographical, literary, and general information sources.

**Test Item No. 31**

31. A review of a recently published book might be found by using: No. %

1. Books in Print 51 43.96
2. *the Reader's Guide to Periodical Literature* 54 46.55
3. The World Book Encyclopedia 3 2.59
4. Gran Enciclopedia del Mundo 3 2.59

No response 5 4.31

The above test item received more than fifty per cent incorrect responses including the "no response" category. The correct alternative (no. 2) received 54 (46.55%) of the responses. The total incorrect response was 57 (49.14%). The other 5 (4.31%) gave no response to this question.

**Test Items No. 32 & 33**

32. An extensive biography about Carlos Romero Barceló is likely to be found in: No. %

1. Current Biography 9 7.76
*2. Webster's Biographical Dictionary 0 0
3. *Diccionario de Autores de Todos los Tiempos y de Todos los Países* 3 2.58
4. Biografías Puertorriqueñas: Perfil Histórico de un Pueblo 104 89.66

33. For a biography about Shakespeare, a good source of information would be: No. %

1. Contemporary Authors 37 31.90
*2. *Diccionario de Autores de Todos los Tiempos y de Todos los Países* 65 56.03
3. *Diccionario de Literatura Puertorriqueña* 2 1.72
4. Who Was Who in America 12 10.35
The above test items ask about biographical information.

Test item no. 32 got the highest incorrect response in the whole test which was 107 (92.24%). Test item no. 33 received a total of 65 (56.03%) correct responses. Incorrect responses totaled 51 (43.97%). The average for the above two test items was 37 (31.9%) correct responses and 79 (68.1%) incorrect responses.

Test Items No. 34-37

34. A critique and Plot of the Iliad might be found in:

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diccionario de Autores de Todos los Tiempos y de Todos los Paises</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Diccionario de Literatura Puertorriqueña</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Diccionario Literario de Obras y Personajes de Todos los Tiempos y de Todos los Paises</td>
<td>94</td>
</tr>
<tr>
<td>4</td>
<td>Diccionario Enciclopédico Labor</td>
<td>3</td>
</tr>
</tbody>
</table>

No response

35. General information about the past year's events will appear in:

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Almanaque Mundial</td>
<td>105</td>
</tr>
<tr>
<td>2</td>
<td>Biblioteca Salvat de Grandes Temas</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Enciclopedia Guinness de Superlativos Mundiales</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Breve Enciclopedia de la Cultura Puertorriqueña</td>
<td>2</td>
</tr>
</tbody>
</table>

No response

36. You need information about why and how "Labor Day" is celebrated, you may consult:

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manual de Historia Universal</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>American Book of Days</td>
<td>67</td>
</tr>
<tr>
<td>3</td>
<td>Breve Enciclopedia de la Cultura Puertorriqueña</td>
<td>38</td>
</tr>
<tr>
<td>4</td>
<td>The Europa Year Book</td>
<td>0</td>
</tr>
</tbody>
</table>

No response
37. A reference source for information published by the Federal Government would be:

<table>
<thead>
<tr>
<th>Reference Source</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Libros en Venta</td>
<td>12</td>
<td>10.26</td>
</tr>
<tr>
<td>National Union Catalog</td>
<td>78</td>
<td>66.67</td>
</tr>
<tr>
<td>Fichero Bibliográfico</td>
<td>5</td>
<td>4.27</td>
</tr>
<tr>
<td>*Monthly Catalog</td>
<td>20</td>
<td>17.09</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>1.71</td>
</tr>
</tbody>
</table>

One subject gave a double response to item no. 37.

The above test items also deal with reference sources. Test item no. 34 received 94 (81.03%) correct responses and 19 (16.38%) total incorrect responses. The "No response" totaled 3 (2.59%). Item no. 35 followed a similar pattern of correct response with 105 (90.52%) subjects selecting the correct alternative and 10 (8.62%) selecting from among the incorrect ones. Only one subject did not give a response to item no. 35. In test item no. 36 over 50% (57.76%) of the sample gave a correct response to it. The incorrect response went up to 47 (40.52%). Two subjects did not respond to test item no. 36. Alternative no. 4 which was the correct response for test item no. 37 was chosen by only 20 (17.09%) of the respondents. A total of 95 (81.2%) subjects chose the incorrect alternative and 2 (1.72%) subjects gave no response. One double response was recorded for this test item.

Altogether, items 28-37 of the test had an average correct response of 65.8 (56.71%) and an average incorrect response of 48.5 (41.81%) (see table 7).
<table>
<thead>
<tr>
<th>Test Item No.</th>
<th>Total Response</th>
<th>% Response</th>
<th>Total No Response</th>
<th>% No Response</th>
<th>Correct Response</th>
<th>% Correct Response</th>
<th>Incorrect Response</th>
<th>% Incorrect Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>75</td>
<td>64.66</td>
<td>41</td>
<td>35.34</td>
</tr>
<tr>
<td>29</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>98</td>
<td>84.48</td>
<td>18</td>
<td>15.52</td>
</tr>
<tr>
<td>30</td>
<td>111</td>
<td>95.69</td>
<td>5</td>
<td>4.31</td>
<td>71</td>
<td>61.21</td>
<td>40</td>
<td>34.48</td>
</tr>
<tr>
<td>31</td>
<td>111</td>
<td>95.69</td>
<td>5</td>
<td>4.31</td>
<td>54</td>
<td>46.55</td>
<td>57</td>
<td>49.14</td>
</tr>
<tr>
<td>32</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>7.76</td>
<td>107</td>
<td>92.24</td>
</tr>
<tr>
<td>33</td>
<td>116</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>65</td>
<td>56.03</td>
<td>51</td>
<td>43.97</td>
</tr>
<tr>
<td>34</td>
<td>113</td>
<td>97.41</td>
<td>3</td>
<td>2.59</td>
<td>94</td>
<td>81.03</td>
<td>19</td>
<td>16.38</td>
</tr>
<tr>
<td>35</td>
<td>115</td>
<td>99.14</td>
<td>1</td>
<td>.86</td>
<td>105</td>
<td>90.52</td>
<td>10</td>
<td>8.62</td>
</tr>
<tr>
<td>36</td>
<td>114</td>
<td>98.28</td>
<td>2</td>
<td>1.72</td>
<td>67</td>
<td>57.76</td>
<td>47</td>
<td>40.52</td>
</tr>
<tr>
<td>*37</td>
<td>115</td>
<td>98.29</td>
<td>2</td>
<td>1.72</td>
<td>20</td>
<td>17.09</td>
<td>95</td>
<td>81.20</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>114.3</td>
<td>98.45</td>
<td>1.8</td>
<td>1.55</td>
<td>65.8</td>
<td>56.71</td>
<td>48.50</td>
<td>41.74</td>
</tr>
</tbody>
</table>

*This question received double response
Periodicals

The part of the library test concerned with periodicals deals with how to locate periodical articles in the library and with the interpretation of the article entry in a periodical index.

Items 38 and 39 which follow ask about how to locate an article in the library.

Test Items No. 38 & 39

38. A recent article on a given subject which has appeared in a periodical may be found by consulting:

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>a periodical directory such as Ulrich's International Periodical Directory</td>
</tr>
<tr>
<td>2.</td>
<td>the card catalog</td>
</tr>
<tr>
<td>3.</td>
<td>a bibliography on that subject</td>
</tr>
<tr>
<td>*4.</td>
<td>a periodical index</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
</tr>
</tbody>
</table>

39. In order to find out if your library has a particular issue of a periodical you should first consult:

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>the card catalog</td>
</tr>
<tr>
<td>*2.</td>
<td>the library's periodical check-in system</td>
</tr>
<tr>
<td>3.</td>
<td>a &quot;Union List&quot; of periodical holdings</td>
</tr>
<tr>
<td>No response</td>
<td>4</td>
</tr>
</tbody>
</table>

Responses given to test item no. 38 indicate that 62 (53.45%) subjects know that a periodical index gives access to periodical articles. Fifty-two (44.83%) subjects answered incorrectly to test item 38 and 2 (1.72%) did not respond. Item no. 39 tests knowledge about finding a periodical in the library. A total of 75 (64.65%)
respondents gave the correct response to this item. The other 37 (31.9%) subjects who responded to the test item gave incorrect responses. Four (3.45%) abstained from responding.

The test items which follow test knowledge about the interpretation of an entry in a periodical index. All eight questions are True or False. The first six questions refer to a sample of entries in the Reader's Guide to Periodical Literature of Oct. 25, 1979, included before the questions as a part of the test. Questions 46 and 47 refer to the periodical index but to information not illustrated by the sample.

**Test Items No. 40-45**


<table>
<thead>
<tr>
<th>MILITARY assistance, Russian</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Russia with love. T. Szulc. il N Y 12:65 S 24 '79</td>
<td>32</td>
<td>27.59</td>
</tr>
<tr>
<td>PLO's Moscow connection. H. Krosney. il N Y 12:64-9+S 24 '79</td>
<td>82</td>
<td>70.69</td>
</tr>
<tr>
<td>MILITARY bases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communities on the Pentagon's hit list. il Nations Bus 67:71-2+S '79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>see also Navy yards and naval stations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MILITARY research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientologists obtain potent hallucinogen. QNB; controversy over drug abuse by the Army in test programs; BZ tests. E. Marshall. il Science 205:982-3 S 7 '79</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

You may find the following information in the entries of a periodical index:

<table>
<thead>
<tr>
<th>40. A critical evaluation of the article.</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. True</td>
<td>32</td>
<td>27.59</td>
</tr>
<tr>
<td>*2. False</td>
<td>82</td>
<td>70.69</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>1.72</td>
</tr>
</tbody>
</table>

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41. The volume number of the periodical cited:  
   No.  %  
   *1. True  81  69.83  
   2. False  31  26.72  
   No response  4  3.45  
42. The call number of the periodical:  No.  %  
   1. True  66  56.90  
   *2. False  45  38.79  
   No response  5  4.31  
43. A reference to another heading which is related to the subject at hand:  No.  %  
   *1. True  87  75  
   2. False  24  20.69  
   No response  5  4.31  
44. The title of the publication in which the article was published:  No.  %  
   *1. True  100  86.21  
   2. False  13  11.21  
   No response  3  2.58  
45. The date when the article was published:  No.  %  
   *1. True  92  79.31  
   2. False  22  18.97  
   No response  2  1.72  

Two test items in the above questions scored below 70% correct response (items 41 & 42) and one test item below 50% correct response (test item 42). Items no. 43, 44, and 45 all had correct responses above 75%. The average for the above test items is 69.97% correct responses.

The following two questions pertain to this part of the test but they test knowledge of information not illustrated by the sample.
Test Items No. 46 & 47

Other information NOT included in the sample above that can be found in a periodical index is:

46. A list of book reviews which have appeared in the periodicals indexed.

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>*1. True</td>
<td>44</td>
</tr>
<tr>
<td>2. False</td>
<td>66</td>
</tr>
<tr>
<td>No. response</td>
<td>6</td>
</tr>
</tbody>
</table>

47. A list of abbreviations used in the index.

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>*1. True</td>
<td>53</td>
</tr>
<tr>
<td>2. False</td>
<td>60</td>
</tr>
<tr>
<td>No response</td>
<td>3</td>
</tr>
</tbody>
</table>

Incorrect response for the above items was more than 50% in each case. Including the "no response" category, test item no. 46 had 62.07% incorrect response.

The complete part of the test about periodicals had an average correct response of 72.1 (62.16%) (see table 8).
### TABLE 8

Summary of Responses to Test Items About Periodicals

<table>
<thead>
<tr>
<th>Test Item No.</th>
<th>Total Response</th>
<th>% Response</th>
<th>Total No Response</th>
<th>% No Response</th>
<th>Correct Response</th>
<th>% Correct Response</th>
<th>Incorrect Response</th>
<th>% Incorrect Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
<td>114</td>
<td>98.28</td>
<td>2</td>
<td>1.72</td>
<td>62</td>
<td>53.45</td>
<td>52</td>
<td>44.83</td>
</tr>
<tr>
<td>39</td>
<td>112</td>
<td>96.55</td>
<td>4</td>
<td>3.45</td>
<td>75</td>
<td>64.65</td>
<td>37</td>
<td>31.90</td>
</tr>
<tr>
<td>40</td>
<td>114</td>
<td>98.28</td>
<td>2</td>
<td>1.72</td>
<td>82</td>
<td>70.69</td>
<td>32</td>
<td>27.59</td>
</tr>
<tr>
<td>41</td>
<td>112</td>
<td>96.55</td>
<td>4</td>
<td>3.45</td>
<td>81</td>
<td>69.83</td>
<td>31</td>
<td>26.72</td>
</tr>
<tr>
<td>42</td>
<td>111</td>
<td>95.69</td>
<td>5</td>
<td>4.31</td>
<td>45</td>
<td>38.79</td>
<td>66</td>
<td>56.90</td>
</tr>
<tr>
<td>43</td>
<td>111</td>
<td>95.69</td>
<td>5</td>
<td>4.31</td>
<td>87</td>
<td>75</td>
<td>24</td>
<td>20.69</td>
</tr>
<tr>
<td>44</td>
<td>113</td>
<td>97.41</td>
<td>3</td>
<td>2.58</td>
<td>100</td>
<td>86.21</td>
<td>13</td>
<td>11.21</td>
</tr>
<tr>
<td>45</td>
<td>114</td>
<td>98.28</td>
<td>2</td>
<td>1.72</td>
<td>92</td>
<td>79.31</td>
<td>22</td>
<td>18.97</td>
</tr>
<tr>
<td>46</td>
<td>110</td>
<td>94.83</td>
<td>6</td>
<td>5.17</td>
<td>44</td>
<td>37.93</td>
<td>66</td>
<td>56.90</td>
</tr>
<tr>
<td>47</td>
<td>113</td>
<td>97.41</td>
<td>3</td>
<td>2.59</td>
<td>53</td>
<td>45.69</td>
<td>60</td>
<td>51.72</td>
</tr>
</tbody>
</table>

Average 112.4 96.90 3.6 3.10 72.1 62.16 40.3 34.74
Summary of Test Item Analysis

A total of 20 test items were answered correctly by 75% or more of the sample. The items with 75% or more correct responses were:

item 1, about the purpose of the preface or introduction of a book.
item 7, the selection of a topic for research.
item 10, information included in a bibliography.
item 11, bibliographic citation for a periodical article.
item 12, the purpose of the call number.
item 13 & 14, the arrangement of call numbers on the shelves.
item 16, publication information appearing in the catalog card.
item 17, edition information appearing in the catalog card.
item 18, subject matter information appearing in the catalog card.
item 20, call number information appearing in the catalog card.
item 24, the choice of subject headings.
item 26, the alphabetical arrangement of subdivided subject headings.
item 29, choice of a reference source.
item 34, source of information for a literary work.
item 35, source of information for the past year's events.
item 43, "reference" information in the periodical article entry of an index.
item 44, title information in a periodical article entry of an index.
item 45, date information in a periodical article entry of an index.
item 49, the function of reference personnel.

Nine test items had more than 50% of the sample responding incorrectly to them. These were:

item 9, the part of the book where the bibliographic data can be found.

item 23, choice of subject headings about the history of a country.

*item 25, alphabetical arrangement of titles in the card catalog.

item 27, alphabetical arrangement of historical periods and dates.

*item 32, current biographical information.

*item 37, Federal Government publication sources.

item 42, article location information appearing in a periodical index.

item 45, book review information appearing in a periodical index.

item 47, abbreviations information appearing in the periodical index.

The averaging of responses in the different subject areas covered by the library test resulted in having the following four subject areas with less than 70% average correct response: definitions and general information, filing rules, reference sources, and periodicals. The subject area about filing rules covered by the test had the lowest percent of correct response in the whole test with 42.22% correct response. The second lowest was obtained on the part about reference sources with 56.71% correct response. Periodicals, and definitions and general information received 62.16% and 64.08%

*indicates items with 75% or more of the sample responding incorrectly to them.
respectively. Subject areas about written reports and bibliography writing, and the card catalog obtained 70.34% and 70.09% respectively. The highest correct response average was obtained by the subject area about the classification and arrangement of books represented in the test by three questions. A total of 100.67 (86.78%) respondents chose the correct alternative to this subject area covered by the test (see table 9 for further details).

**TABLE 9**

Summary of Responses to Subject Areas Covered by the Library Test

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Average Correct</th>
<th>% Correct</th>
<th>Average Incorrect</th>
<th>% Incorrect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitions and General Information</td>
<td>74.33</td>
<td>64.08</td>
<td>35.67</td>
<td>30.75</td>
</tr>
<tr>
<td>Written Reports and Bibliography</td>
<td>81.60</td>
<td>70.34</td>
<td>33.60</td>
<td>28.97</td>
</tr>
<tr>
<td>Classification and Arrangement of Books</td>
<td>100.67</td>
<td>86.78</td>
<td>9.67</td>
<td>8.33</td>
</tr>
<tr>
<td>Card Catalog</td>
<td>81.30</td>
<td>70.09</td>
<td>33.60</td>
<td>28.96</td>
</tr>
<tr>
<td>Filing Rules</td>
<td>49.33</td>
<td>42.22</td>
<td>61.67</td>
<td>52.92</td>
</tr>
<tr>
<td>Reference Sources</td>
<td>65.80</td>
<td>56.71</td>
<td>49.50</td>
<td>41.74</td>
</tr>
<tr>
<td>Periodicals</td>
<td>72.10</td>
<td>62.16</td>
<td>40.30</td>
<td>34.74</td>
</tr>
</tbody>
</table>

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Analysis of Library Use, Library Orientation/Instruction Received, and Library Orientation/Instruction Needs

Questions 52-55 included after the 50 test items in the data gathering instrument are the subject of analysis in this section. The questions deal with library use and library orientation/instruction. Multiple response was permitted in the multiple choice questions in this section.

Questions 52 and 53 of the survey deal with the frequency of use of the library and with the kind of use made by the respondents of available library facilities.

**Question No. 52**

52. How often did you use the library of your high school?  

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>daily</td>
<td>15</td>
<td>12.93</td>
</tr>
<tr>
<td>2.</td>
<td>more than once a week</td>
<td>34</td>
<td>29.31</td>
</tr>
<tr>
<td>3.</td>
<td>once a week</td>
<td>11</td>
<td>9.48</td>
</tr>
<tr>
<td>4.</td>
<td>more than once per month</td>
<td>11</td>
<td>9.48</td>
</tr>
<tr>
<td>5.</td>
<td>once per month</td>
<td>5</td>
<td>4.31</td>
</tr>
<tr>
<td>6.</td>
<td>once or twice during the semester that required its use</td>
<td>30</td>
<td>25.86</td>
</tr>
<tr>
<td>7.</td>
<td>only when I was assigned work</td>
<td>2</td>
<td>1.72</td>
</tr>
<tr>
<td>8.</td>
<td>seldom or never</td>
<td>3</td>
<td>2.59</td>
</tr>
<tr>
<td>9.</td>
<td>other: explain (one explained: almost always closed)</td>
<td>3</td>
<td>2.59</td>
</tr>
<tr>
<td>10.</td>
<td>there was no library</td>
<td>1</td>
<td>.86</td>
</tr>
</tbody>
</table>

Question no. 52 yielded information about the frequency with which the respondents used the library. A total of 60 (51.72%) subjects indicated using the library once a week or more often. Thirty subjects (25.86%) indicated using the library when work that required its use was assigned. Eight (6.9%) subjects indicated that they seldom or never used the library. The subject who indicated that the library was closed most of the time, also chose the once per month
alternative to this question. One subject indicated the absence of a library in the school he attended. A total of 120 responses were recorded for question no. 52.

**Question No. 53**

53. What use did you make of available library facilities? You may choose all the alternatives which apply to your case.

<table>
<thead>
<tr>
<th>No.</th>
<th>Alternative</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>read my own textbooks</td>
<td>75</td>
<td>64.66</td>
</tr>
<tr>
<td>2.</td>
<td>use 'reserve' material</td>
<td>51</td>
<td>43.97</td>
</tr>
<tr>
<td>3.</td>
<td>pleasure reading (novels, popular magazines, newspapers, etc.)</td>
<td>57</td>
<td>49.14</td>
</tr>
<tr>
<td>4.</td>
<td>look up information for personal use (none class related)</td>
<td>43</td>
<td>37.07</td>
</tr>
<tr>
<td>5.</td>
<td>do assignments that required library use</td>
<td>95</td>
<td>81.90</td>
</tr>
<tr>
<td>6.</td>
<td>do class related research</td>
<td>84</td>
<td>72.41</td>
</tr>
<tr>
<td>7.</td>
<td>other: explain (special work)</td>
<td>5</td>
<td>4.31</td>
</tr>
<tr>
<td>8.</td>
<td>none</td>
<td>2</td>
<td>1.72</td>
</tr>
</tbody>
</table>

no response 1 .86

Question no. 53 revealed data about the purpose of using the library whenever it was used. Alternative no. 5 of this question received the greatest number of choices with 95 (81.9%) respondents indicating using the library for required library related assignments. The alternative with the second largest amount of choices was no. 6 with 84 (72.41%) of the respondents indicating using the library for class related research. The other alternative chosen by 50% or more of the respondents was no. 1 which indicated using the library to read their own textbooks. Fifty-one (43.97%) subjects responded using the library to read 'reserve' material. Pleasure reading and information for personal use received 57 (49.14%) and 43 (37.07%) responses respectively. One of the subjects who had in the previous question indicated the seldom or never use of the library, indicated giving no use to the library in this question.
It is worth noting that 21 respondents indicated using the library for all the purposes specified by the question and 113 indicated using the library for at least one of the purposes specified by the question.

Question No. 54

54. Type of instruction received. You may choose all the alternatives that apply to your case.  

1. instruction on how to use reference tools such as indexes, bibliographies, encyclopedias, etc.  
   No. 56  
   % 49.28

2. instruction on how to use the card catalog.  
   No. 38  
   % 32.76

3. instruction on how to use audio-visual equipment and materials.  
   No. 23  
   % 19.83

4. orientation on the facilities (where things are)  
   No. 59  
   % 50.86

5. other: explain____________________  
   No. 4  
   % 3.45

6. none  
   No. 37  
   % 31.90

no response  
   No. 1  
   % .86

The above question deals with the kind of library instruction that the subjects have received. Fifty-nine (50.86%) respondents indicated receiving orientation on the use of the library facilities. Alternative no. 1 which refers to instruction on the use of reference tools was indicated by 56 (48.28%) respondents. Instruction on how to use the card catalog was received by 38 (32.76%) subjects. Twenty-three (19.83%) received instruction in the use of audiovisual equipment and materials. A total of 37 (31.9%) subjects indicated receiving no library instruction or orientation whatsoever. Of this total, one subject had indicated receiving 'other' instruction and another subject had indicated receiving instruction in the use of reference tools.

Of the total sample (116), sixteen (13.79%) indicated
receiving instruction in all the areas of library instruction specified by the question and 81 (69.83%) respondents indicated receiving instruction in at least one of the areas of instruction specified by the question.

**Question No. 55**

55. In which of the following aspects of library instruction do you feel help is needed in order to be able to use the University library? You may choose all the alternatives that apply to your case.

<table>
<thead>
<tr>
<th>Aspect</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. use of the card catalog</td>
<td>76</td>
<td>65.52</td>
</tr>
<tr>
<td>2. use of indexes</td>
<td>43</td>
<td>37.07</td>
</tr>
<tr>
<td>3. use of audiovisual material and equipment</td>
<td>73</td>
<td>62.93</td>
</tr>
<tr>
<td>4. use and choice of reference sources</td>
<td>57</td>
<td>49.14</td>
</tr>
<tr>
<td>5. preparation of written reports and bibliographies</td>
<td>54</td>
<td>46.55</td>
</tr>
<tr>
<td>6. orientation on the facilities and location of materials</td>
<td>91</td>
<td>78.45</td>
</tr>
<tr>
<td>7. other: explain</td>
<td>4</td>
<td>3.45</td>
</tr>
<tr>
<td>8. none</td>
<td>1</td>
<td>.86</td>
</tr>
</tbody>
</table>

No response | 3   | 2.59 |

The purpose of question No. 55 above was to survey the library instruction needs of the subjects as perceived by them. The responses given by the subjects indicate that 91 (78.45%) subjects feel a need for orientation on the library facilities; 76 (65.52%) subjects expressed their need for instruction on the use of the card catalog; 73 (62.93%) indicated a need for help in the use of audiovisual material and equipment. Other areas of instruction with a felt need by almost 50% of the subjects are the use and choice of reference books, an alternative which received 57 (49.14%) choices and the preparation of written reports and bibliographies which was chosen by 54 (46.55%) of the respondents. One subject selected alternative no. 8
Which indicates no need for library orientation or instruction. It is interesting to note that the subject who chose alternative no. 8 to this question scored 22 (44%) on the library test administered as part of this study. A total of 27 (23.28%) respondents expressed their need for orientation and instruction in all the areas of instruction specified by the question. Five subjects who indicated a need for orientation and/or instruction in all the areas of instruction specified by the question had also indicated in question no. 54 that instruction was received in all the areas specified by the alternatives to question no. 54. One hundred eleven (95.69%) of the respondents expressed a felt need for instruction in at least one of the areas specified by question no. 55.

**Analysis of Variables for Significant Differences in Means**

This study identified three different groups for comparisons: students enrolled in the two different levels of Spanish courses; students who had completed their secondary education in private schools and those who had completed their secondary education in public schools; and students who came from the San Juan area and those who came from other places in the Island.

The testing instrument was administered to 60 students from the second level Spanish course (Spanish 3) and to 56 students from the first level Spanish course (Spanish 1). The mean scores of the groups were of 33.45 for the second level Spanish course and of 30.57 for the first level Spanish course. The application of the t-test for independent variables yielded a t-value of 2.36 which was significant.
at the .10 and .05 levels. Tables 10 & 11 show the distribution of the scores of the subjects in each of the two groups described above.

The sample had a representation of students who had completed their secondary education in private schools and a representation of students who had completed their secondary education in public schools. Thirty-two subjects of the total sample had completed their secondary education in private schools and 79 had completed their secondary education in public schools. The mean score of those from private schools was 32.78, and the mean score of those from public schools was 31.7. The t-test for independent variables yielded a t-value of .657 which was not significant at any level. Tables 12 & 13 show the distribution of the scores of the subjects in each of the groups described above.

The representation of students from the San Juan area was 63 and that of students from the Island was 49. The mean score of the San Juan group was 33.16, and that of the Island group was 30.82. The t-test for independent variables yielded a t-value of 1.81 which was significant at a .10 level but not at a .05 level. Tables 14 & 15 show the distribution of the scores of the subjects in the above described groups.

See table 16 for a summary of variables and t-test values obtained for each of the three groups identified above.
TABLE 10

Frequency Distribution of Scores of Students From the Second Level of Spanish Courses (Spanish 3)

<table>
<thead>
<tr>
<th>Limits of $X_1$</th>
<th>$X_1$</th>
<th>$f$</th>
<th>c.f.</th>
<th>$fX_1$</th>
<th>$x_1=(X_1-\bar{X}_1)f$</th>
<th>$x_1^2$</th>
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<td>39.5-40.5</td>
<td>40</td>
<td>3</td>
<td>60</td>
<td>120</td>
<td>19.65</td>
<td>386.12</td>
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<td>38.5-39.5</td>
<td>39</td>
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<td>57</td>
<td>39</td>
<td>5.55</td>
<td>30.80</td>
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<td>37.5-38.5</td>
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<td>56</td>
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<td>82.81</td>
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<td>54</td>
<td>259</td>
<td>24.85</td>
<td>617.52</td>
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<td>35.5-36.5</td>
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<td>47</td>
<td>252</td>
<td>17.85</td>
<td>318.62</td>
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<tr>
<td>34.5-35.5</td>
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<td>6</td>
<td>40</td>
<td>210</td>
<td>9.30</td>
<td>86.49</td>
</tr>
<tr>
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<td>6</td>
<td>34</td>
<td>204</td>
<td>3.30</td>
<td>10.89</td>
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<td>28</td>
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<td>9.92</td>
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<td>31.5-32.5</td>
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<td>21</td>
<td>128</td>
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<td>33.64</td>
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<td>150.06</td>
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<td>-6.90</td>
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<td>79.21</td>
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<td>8</td>
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<td>-21.80</td>
<td>475.24</td>
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<td>41.60</td>
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<td>23.5-24.5</td>
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$N = 60 \quad \Sigma fX_1 = 2007 \quad \Sigma x_1^2 = 2681.84$

Note: Mean = 33.45

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TABLE 11

Frequency Distribution of Scores of Students From the First Level of Spanish Courses (Spanish 1)

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<tr>
<th>Limits of $X_2$</th>
<th>$X_2$</th>
<th>$f$</th>
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<td>34</td>
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<td>28</td>
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<td>-3.99</td>
<td>15.92</td>
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<td>21</td>
<td>261</td>
<td>-14.13</td>
<td>199.66</td>
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<td>12</td>
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<td>-10.28</td>
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<td>2</td>
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</table>

$N = 56$  \quad \sum fX_2 = 1712  \quad \sum x_2^2 = 2248.58$

Note: Mean = 30.57

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### TABLE 12

**Frequency Distribution of Scores of Students Who studied in Private Secondary Schools**

<table>
<thead>
<tr>
<th>Limits of $x_5$</th>
<th>$x_5$</th>
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<th>c.f.</th>
<th>$fx_5$</th>
<th>$x_5 = (x_5 - \bar{x})f$</th>
<th>$x_5^2$</th>
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<tbody>
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<td>39.5-40.5</td>
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<td>32</td>
<td>80</td>
<td>14.44</td>
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<td>39</td>
<td>1</td>
<td>30</td>
<td>39</td>
<td>6.22</td>
<td>38.69</td>
</tr>
<tr>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>36.5-37.5</td>
<td>37</td>
<td>2</td>
<td>29</td>
<td>74</td>
<td>8.44</td>
<td>71.23</td>
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<td>3</td>
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\[ N = 32 \quad \Sigma fx_{5} = 1049 \quad \Sigma x_{5}^2 = 776.09 \]

**Note:** Mean = 32.78
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<th>$X_6 - (X_6 - X_6)'f$</th>
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<td>22</td>
<td>-9.70</td>
<td>94.09</td>
</tr>
<tr>
<td>20.5-21.5</td>
<td>21</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>19.5-20.5</td>
<td>20</td>
<td>2</td>
<td>2</td>
<td>40</td>
<td>-23.40</td>
<td>547.56</td>
</tr>
</tbody>
</table>

$N = 79 \quad \sum fX_6 = 2504 \quad \sum X_6^2 = 5936.87$

Note: Mean = 31.70
TABLE 14

Frequency Distribution of Scores of Students from the San Juan Metropolitan Area

<table>
<thead>
<tr>
<th>Limits of $X_3$</th>
<th>$X_3$</th>
<th>$f$</th>
<th>c.f.</th>
<th>$fX_3$</th>
<th>$x_3=(X_3-\overline{X}_3)f$</th>
<th>$x_3^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.5-40.5</td>
<td>40</td>
<td>3</td>
<td>63</td>
<td>120</td>
<td>20.52</td>
<td>421.07</td>
</tr>
<tr>
<td>38.5-39.5</td>
<td>39</td>
<td>1</td>
<td>60</td>
<td>39</td>
<td>5.84</td>
<td>34.11</td>
</tr>
<tr>
<td>37.5-38.5</td>
<td>38</td>
<td>2</td>
<td>59</td>
<td>76</td>
<td>9.68</td>
<td>93.70</td>
</tr>
<tr>
<td>36.5-37.5</td>
<td>37</td>
<td>7</td>
<td>57</td>
<td>259</td>
<td>26.88</td>
<td>722.53</td>
</tr>
<tr>
<td>35.5-36.5</td>
<td>36</td>
<td>8</td>
<td>50</td>
<td>288</td>
<td>22.72</td>
<td>516.20</td>
</tr>
<tr>
<td>34.5-35.5</td>
<td>35</td>
<td>6</td>
<td>42</td>
<td>210</td>
<td>11.04</td>
<td>121.88</td>
</tr>
<tr>
<td>33.5-34.5</td>
<td>34</td>
<td>4</td>
<td>36</td>
<td>136</td>
<td>3.36</td>
<td>11.29</td>
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<td>32.5-33.5</td>
<td>33</td>
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<td>32</td>
<td>165</td>
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<td>0.64</td>
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<td>31.5-32.5</td>
<td>32</td>
<td>7</td>
<td>27</td>
<td>224</td>
<td>-8.12</td>
<td>65.93</td>
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<td>30.5-31.5</td>
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<td>6</td>
<td>20</td>
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<td>167.96</td>
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<td>29.5-30.5</td>
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<td>3</td>
<td>14</td>
<td>90</td>
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<td>89.87</td>
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<td>28.5-29.5</td>
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<td>11</td>
<td>87</td>
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<td>155.75</td>
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<td>27.5-28.5</td>
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<td>8</td>
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<td>426.01</td>
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<td>37.95</td>
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<td>3</td>
<td>26</td>
<td>-7.16</td>
<td>51.27</td>
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<td>25</td>
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<td>2</td>
<td>0</td>
<td>0</td>
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<td>1</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>19.5-20.5</td>
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<td>1</td>
<td>1</td>
<td>20</td>
<td>-13.16</td>
<td>173.19</td>
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</tbody>
</table>

$N = 63$  \quad \Sigma fX_3 = 2089  \quad \Sigma x_3^2 = 3173.25$

Note: Mean = 33.16
TABLE 15

Frequency Distribution of Scores of Students From Cities and Towns of Puerto Rico Outside the Metropolitan San Juan Area

<table>
<thead>
<tr>
<th>Limits of $X_4$</th>
<th>$X_4$</th>
<th>$f$</th>
<th>c.f.</th>
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<th>$X_4=\bar{X}_4 f$</th>
<th>$X_4^2$</th>
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<td>37.5-38.5</td>
<td>38</td>
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<td>49</td>
<td>38</td>
<td>7.18</td>
<td>51.55</td>
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<tr>
<td>36.5-37.5</td>
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<td>3</td>
<td>48</td>
<td>111</td>
<td>18.54</td>
<td>343.73</td>
</tr>
<tr>
<td>35.5-36.5</td>
<td>36</td>
<td>0</td>
<td>45</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>34.5-35.5</td>
<td>35</td>
<td>5</td>
<td>45</td>
<td>175</td>
<td>20.90</td>
<td>436.81</td>
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<tr>
<td>33.5-34.5</td>
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<td>3</td>
<td>40</td>
<td>102</td>
<td>9.54</td>
<td>91.01</td>
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<tr>
<td>32.5-33.5</td>
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<td>6</td>
<td>37</td>
<td>198</td>
<td>13.08</td>
<td>171.09</td>
</tr>
<tr>
<td>31.5-32.5</td>
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<td>31</td>
<td>96</td>
<td>3.54</td>
<td>12.53</td>
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<td>30.5-31.5</td>
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<td>5</td>
<td>28</td>
<td>155</td>
<td>.90</td>
<td>.81</td>
</tr>
<tr>
<td>29.5-30.5</td>
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<td>23</td>
<td>150</td>
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<td>28.5-29.5</td>
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<td>18</td>
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<td>162.31</td>
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<tr>
<td>27.5-28.5</td>
<td>28</td>
<td>4</td>
<td>11</td>
<td>112</td>
<td>-11.28</td>
<td>127.24</td>
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<tr>
<td>26.5-27.5</td>
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<td>7</td>
<td>27</td>
<td>- 3.82</td>
<td>14.59</td>
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<td>25.5-26.5</td>
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<td>0</td>
<td>0</td>
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</tr>
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<td>22.5-23.5</td>
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<td>3</td>
<td>23</td>
<td>- 7.82</td>
<td>61.15</td>
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<td>21.5-22.5</td>
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<td>2</td>
<td>22</td>
<td>- 8.82</td>
<td>77.79</td>
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<td>20.5-21.5</td>
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<td>0</td>
<td>0</td>
</tr>
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<td>19.5-20.5</td>
<td>20</td>
<td>1</td>
<td>1</td>
<td>20</td>
<td>-10.82</td>
<td>117.07</td>
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</table>

$N = 49 \quad \sum fX_4 = 1510 \quad \sum X_4^2 = 1893.58$

Note: Mean = 30.82
TABLE 16

Summary of Variables and t-Test Values

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<th>Variable</th>
<th>Number of Subjects</th>
<th>Mean Score</th>
<th>t-value</th>
</tr>
</thead>
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<tr>
<td>Course level</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>level 1</td>
<td>60</td>
<td>33.45</td>
<td>*2.36</td>
</tr>
<tr>
<td>level 2</td>
<td>56</td>
<td>30.57</td>
<td></td>
</tr>
<tr>
<td>Type of School</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>private</td>
<td>32</td>
<td>32.78</td>
<td>**.657</td>
</tr>
<tr>
<td>public</td>
<td>79</td>
<td>31.70</td>
<td></td>
</tr>
<tr>
<td>Place</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Juan</td>
<td>63</td>
<td>33.16</td>
<td>**1.81</td>
</tr>
<tr>
<td>Island</td>
<td>49</td>
<td>30.82</td>
<td></td>
</tr>
</tbody>
</table>

* significant at a .10 and .05 level

**significant at a .10 level
Summary of Findings

The major findings in regard to the problem under investigation were as follows:

1. Four library instruction subject areas received an average of less than 70% correct response. These were:
   filing rules, reference sources, index to periodicals, and definitions and general information.
   a. an average of 52.92% of the subjects lack a knowledge of basic alphabetizing rules which are the basis for the organization of cards in the library card catalog and thus necessary for securing information in the library.
   b. The knowledge of reference sources is limited. An average of 41.74% of the subjects lack knowledge of reference sources. This knowledge is minimal (less than 70% correct response) in sources of biographical information, book reviews, some general information sources, and federal government publications (as represented by the test).
   c. Thirty per cent or more of the sample lack a knowledge of the library tools which give access to
periodical articles and of other information provided by a periodical index which is not included in the entries of the index.

d. An average of 36.49% of the subjects are lacking knowledge of library/book related terms which knowledge facilitates the search for information and the use of reference tools.

e. Forty-three point one per cent of the subjects do not know about the possibility of securing library materials (not available in their library), through interlibrary loan.

2. In relation to library instruction and use, it was found that:

a. Twenty-five point eighty-six per cent of the sample used the library only when work was assigned that required its use.

b. Sixty-four point sixty-six per cent of the sample used the library to read their own textbooks and 43.97% to use "reserve" material (among other uses).

c. The greatest use of the library resulted when library-related assignments and class-related research were assigned.

d. Orientation on the library facilities was the "instruction" most widely received (50.86%) by the respondents.

e. A total of 37 (31.9%) subjects indicated not receiving library instruction at all.
f. Less than 50% of the respondents received instruction on the use of reference sources, on the use of the card catalog, and on the use of audiovisual equipment and materials.

g. Fifty per cent or more of the subjects indicated needing library instruction on how to use the card catalog; on how to use audiovisual materials and equipment; and orientation on the library facilities and the location of library materials.

3. The analysis of variables resulted in the following:

a. There is a significant difference in the mean scores of the subjects from the second and first levels of freshmen Spanish courses who participated in this study. This difference in mean scores was significant at the .10 and .05 levels.

b. There is no significant difference in the mean scores of the subjects participating in the study who attended private secondary schools and those who attended public secondary schools.

c. The mean of the scores of the subjects participating in this study who were from the San Juan Metropolitan area and those from other places in the Island was significant at the .10 level but not at the .05 level.
Conclusion

The purpose of this study was to determine the library needs of freshmen students enrolled at the U.P.R. for the school year 1980-81. The following conclusions were reached in regard to the problem:

1. Except for the classification and arrangement of books, library instruction is needed in all the subject areas covered by the test as indicated by the average correct response of each subject area (below 75%).

2. Library instruction is needed by 75% of the freshmen students participating in this study as indicated by the test scores of the subjects. Seventy-five per cent of the subjects scored 70.46% or less in the library test.

3. The library is used the most when work is assigned that requires its use; therefore, there is a need for class assignments which require library use and which will teach the use of the library.

4. Library instruction is needed in all the subject areas specified by the questionnaire as indicated by the students' felt need for instruction (over 35% of the subjects).

5. Students enrolled in the first level of freshmen Spanish courses need more instruction on the use of the library than those enrolled in the second level of freshmen Spanish courses as revealed by the significant difference (at .10 & .05 levels) in the mean scores of these groups.
6. Students from the cities and towns of the Island need more instruction in the use of the library than do those students from the San Juan Area as revealed by the significant difference (at a .10 level) in the mean scores of these two groups.

The gap between library instruction needs and actual library instruction offered to students needs to be closed in order that students be equipped with the necessary library knowledge to successfully complete their college career.

**Recommendations**

**Recommendations for Library Instruction**

On the basis of findings and conclusions of this study, the following recommendations are made:

1. Systematic library instruction should be offered to students at the elementary and secondary school levels and this systematic instruction should be related to class work.

2. At the college level, it is recommended that the students' needs be assessed by means of a library test and that instruction be offered based on those needs.

3. Library instruction experiences offered to the students should be course-related since this is the primary motivation of students to use the library facilities.
Recommendations for Research

This study revealed a need for the following:

1. A standardized and normalized Spanish library test which can serve as an assessment instrument of the students' library needs;

2. A survey study to be conducted at institutions of higher education which can reveal what library instruction programs are in effect in institutions of higher education and the nature of those programs;

3. The development of a systematic library instruction program for use in the elementary and secondary schools for the teaching of library skills; and

4. A study of the same nature as the present investigation but at a greater scale which can provide data for making generalizations.
APPENDIXES
APPENDIX A

Table of Specifications
<table>
<thead>
<tr>
<th>SUBJECT MATTER</th>
<th>NUMBER OF QUESTIONS</th>
<th>PER CENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Books</td>
<td>10 (28-37)</td>
<td>20%</td>
</tr>
<tr>
<td>Card Catalog</td>
<td>10 (15-24)</td>
<td>20%</td>
</tr>
<tr>
<td>Index to Periodicals</td>
<td>10 (38-47)</td>
<td>20%</td>
</tr>
<tr>
<td>Definitions and General Inf.</td>
<td>9 (1-6; 48-50)</td>
<td>18%</td>
</tr>
<tr>
<td>Written Reports and Bibliography Writing</td>
<td>5 (7-11)</td>
<td>10%</td>
</tr>
<tr>
<td>Filing Rules</td>
<td>3 (25-27)</td>
<td>6%</td>
</tr>
<tr>
<td>Classification and Arrangement of Books</td>
<td>3 (12-14)</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>50</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

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APPENDIX B

Library Experts Who Reviewed the Library Test
Who Reviewed the Library Test

Hardy Carroll, Dr.
Professor, School of Librarianship
Western Michigan University

Norman Frankel
Librarian, Lab. Library
School of Librarianship
Western Michigan University

David Isaacson
Reference Librarian
Waldo Library
Western Michigan University

Peter Malanchuk
Social Sciences Librarian
Western Michigan University

James Rice, Dr.
Project Advisor and Professor
School of Librarianship
Western Michigan University
APPENDIX C

Letter Accompanying the Library Test (English & Spanish)
Instructions for Answering the Test (English & Spanish)
Answer Sheet (English & Spanish)
Library Knowledge Test (English & Spanish)
DEAR STUDENT

Your Spanish class has been chosen to participate in a study that aims at determining the library knowledge of students who enter the University.

A conscientious response to the test items will help us determine your needs and plan instructional programs accordingly.

Your participation is essential to this study.

Thanks for giving us of your time and interest.
APRECIADO ESTUDIANTE

Tu clase de español básico ha sido seleccionada para participar en un estudio cuyo propósito es determinar los conocimientos bibliotecarios que tienen los estudiantes que entran a la Universidad.

Al responder en forma concienzuda a las preguntas de la prueba va a ser posible saber tus necesidades lo cual permitirá planear programas de instrucción en torno a esas necesidades.

Tu participación es muy escencial.

¡GRACIAS! por darnos de tu tiempo e interés.
INSTRUCTIONS

1. The information provided by you in this test will be kept confidential. You do not need to write your name.

2. Record your responses on the "Answer Sheet" provided for that purpose. Do not write on the test.

3. When responding to the items in the test, choose ONLY one alternative per question or statement.

4. Questions 51 to 58 are survey questions. In some of them you will be indicated if more than one alternative is permitted.

5. How to record your response:
   a. The numbering on your "Answer Sheet" corresponds to that on the test.
   b. Once you have chosen the correct or appropriate alternative, draw a circle around the number corresponding to your choice on your "Answer Sheet".
   c. Sample of a test item:

   5. For information on who designed the United Nations building, you may consult:

      1. Art Through the Ages
      2. Encyclopedia of World Art
      3. Encyclopedia of Modern Architecture
      4. Who's Who in American Art

      "Answer Sheet"

      1. 1 2 3 4
      2. 1 2 3 4
      3. 1 2 3 4
      4. 1 2 3 4
      5. 1 2 (3) 4
      6. 1 2 3 4

      Alternative 3 of question number 5 circled.

6. If you have any questions this is the time to make them. The person administering the test may answer them now.

7. Wait for the starting signal.
INSTRUCCIONES

1. La información administrada por usted en esta prueba se mantendrá confidencial. No necesita escribir su nombre.

2. Registre sus respuestas en el "Papel de Respuesta" que se le ha provisto para ese propósito. No haga marcas o apuntes en la prueba.

3. Al responder a las preguntas de la prueba, escoja SOLO una respuesta para cada pregunta.

4. Las preguntas de la 51 a la 58 son a modo de encuesta. En algunas de ellas se le indicará cuando puede seleccionar más de una alternativa.

5. Modo de registrar sus respuestas:
   a. La numeración en el "Papel de Respuestas" corresponde a la numeración en la prueba.
   b. Una vez haya seleccionado la alternativa o las alternativas apropiadas según sea el caso, haga un círculo alrededor del número correspondiente en su "Papel de Respuestas."
   c. Ejemplo de una pregunta de la prueba:

      5. Para información sobre quién diseñó el edificio de las Naciones Unidas, se puede consultar:

         1. Art Through the Ages
         2. Encyclopedia of World Art
         3. Encyclopedia of Modern Architecture
         4. Who's Who in American Art

         "Papel de Respuestas"

         1. 1 2 3 4
         2. 1 2 3 4
         3. 1 2 3 4
         4. 1 2 3 4
         5. 1 2 (3) 4
         6. 1 2 3 4

   6. Si tiene alguna pregunta, éste es el momento de hacerla. La persona administrando la prueba puede contestarla ahora.
   7. Espere la orden de comenzar.
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<th>2</th>
<th>3</th>
<th>4</th>
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LIBRARY KNOWLEDGE TEST

1. Choose the one alternative which best answers or completes the statement. On your "Answer Sheet," draw a circle around the number which corresponds to the correct response.

1. The part of the book which tells about the author's purpose in writing a book is called:
   1. contents
   2. preface or introduction
   3. title page
   4. appendix

2. A critical evaluation of a book, pamphlet or article is called:
   1. an abstract
   2. the preface
   3. an introduction
   4. a review

3. An alphabetical list of subjects, names, etc. in a book or group of books, with reference to the pages or item number where they occur is:
   1. a glossary
   2. the contents
   3. an index
   4. an appendix

4. An organized list of books containing complete bibliographic information on a specific subject, of a certain type of material, of works by a particular author, or publications from one or various countries is known as:
   1. a bibliography
   2. the table of contents
   3. a series
   4. an index

5. A concordance is:
   1. a chronological list of events
   2. an alphabetical listing of words used in a book or by a particular writer with reference to the passage in which they occur
   3. an alphabetical dictionary
   4. the same as a glossary

Continue on the next page
6. Another name for a geographical dictionary is:
   1. a concordance
   2. a gazetteer
   3. a thesaurus
   4. an anthology

7. When selecting a topic for a term paper or research, it is very important that:
   1. sufficient material is available
   2. you have a genuine interest in the topic
   3. it can be completed in the time allowed
   4. all of the above

8. A direct quotation taken from a book or other source of information should be acknowledged by:
   1. writing a footnote indicating the source and page from where the information was obtained
   2. including the bibliographic data of the publication in the bibliography
   3. enclosing the quotation in quotation marks
   4. all of the above

9. The information needed to record the bibliographic data of a book is usually found:
   1. in the table of contents
   2. throughout the entire book
   3. on the title page and on the back of the title page
   4. in the preface or foreword
   5. all of the above.

10. Information which is indicated in a bibliography include but is not limited to:
    1. edition of the book at hand
    2. name of a co-author or joint author
    3. translator of the book
    4. the publication data
    5. all of the above.

11. A bibliographic citation for a periodical article includes:
    1. author, title, place of publication, publisher and date
    2. author, title of article, volume, date and pages
    3. title of periodical, volume, date and pages
    4. author of the article, title of article, title of periodical, volume, date and pages

Continue on the next page
12. The letters, numbers, figures, and symbols, separate or in combination assigned to library material and known as the call number indicates:

1. subject classification and shelf location of the material
2. the number of books in the library
3. the number of books by subject contained in the library
4. the sequence in which the books were acquired by the library

13. A book with the call number 104.88 would be shelved between:

K112

1. 103.99 and 103.999
   A13 and C26
2. 215 and 368.86
   L9 and M7
3. 098.102 and 118.2
   C44 and P2
4. 660 and 910.6
   D12 and A1

14. A book with the call number 635.8 would be shelved between:

B31

1. 635.8 and 635.85
   B3 and B31
2. 635.85 and 635.85
   B32 and B4
3. 635.8 and 635.8
   B32 and B4
4. 635.85 and 635.85
   B33 and B331

Continue on the next page
II. True or False: On your "Answer Sheet", draw a circle around the number which corresponds to the correct response.

The following sample of a catalog card will help you answer the following TRUE or FALSE statements.

530
B255

Bennett, Clarence Edwin, 1902-
College physics/by Clarence E. Bennett.--
xxiv, 252 p. il. 21 cm. (College outline series, no. 21)

First ed. published in 1935 under title:
An outline of first year college physics.
"Tabulated bibliography of standard textbooks": p. ix-xvii.

1. PHYSICS--OUTLINES, SYLLABI, ETC.
I. Title

By consulting the information on a catalog card you may know:

15. When the author of the book was born.
   1. True 2. False

16. Where the book was published and who published it.
   1. True 2. False

17. What edition of the book the library has.
   1. True 2. False

18. The subject or subjects treated in the book.
   1. True 2. False

19. If the book includes a bibliography.
   1. True 2. False

20. Where to locate the book on the shelves.
   1. True 2. False

21. Where you may find a review of the book.
   1. True 2. False

Continue on the next page
III. Choose the one alternative which best answers or completes the statement. On your "Answer Sheet," draw a circle around the number which corresponds to the correct response.

Twain, Mark

see

Clemens, Samuel Langhorne, 1835-1910

22. The above information written on a catalog card indicates that:

1. information will be found under Clemens, Samuel Langhorne, 1835-1910.
2. the library does NOT have books written by Mark Twain.
3. Samuel Langhorne Clemens is another author who has written about Mark Twain.
4. information is found under Twain, Mark.

23. A book about the history of France would be found through the card catalog under the subject heading:

1. FRENCH HISTORY
2. HISTORY
3. FRANCE--HISTORY
4. HISTORY OF FRANCE

24. An English language dictionary would appear in the catalog under the subject heading:

1. DICTIONARIES
2. DICTIONARIES AND ENCYCLOPEDIAS
3. U.S.--DICTIONARIES
4. ENGLISH LANGUAGE--DICTIONARIES

25. A catalog card with the title La industria de la persuasión, would be found in the card catalog after:

1. Individualized learning
2. Individuals
3. La industria religiosa
4. Industrial and scientific French

Continue on the next page
26. The subject heading "SPAIN--BIBLIOGRAPHY--PERIODICALS" could be found in the card catalog after:

1. SPAIN
2. SPAIN--ANTIQUITIES
3. SPAIN--BIBLIOGRAPHY
4. SPAIN--COLONIES

27. Subject headings about the history of a country are arranged in the card catalog:

1. chronologically
2. by edition
3. alphabetically by subject heading
4. alphabetically by author

28. For the explanation of abbreviations used in a reference book, you should first:

1. consult the glossary of the book
2. ask the librarian for the meaning
3. look for an abbreviations list in the same volume
4. find the explanations in the card catalog of the library

29. When selecting a reference book, an important consideration should be that:

1. contributions to it have been done by subject specialists
2. it is appropriate for the subject coverage of the information needed
3. the edition of the work is recent
4. all of the above

30. In order to find general information on different universities and colleges you may consult:

1. an encyclopedia of education
2. a dictionary of education
3. a directory of education
4. a bibliography of education
5. a manual of education

31. A review of a recently published book might be found by using:

1. Books in Print
2. the Reader's Guide to Periodical Literature
3. The World Book Encyclopedia
4. Gran Enciclopedia del Mundo
32. An extensive biography about Carlos Romero Barceló is likely to be found in:

1. Current Biography
2. Webster's Biographical Dictionary
3. Diccionario de Autores de Todos los Tiempos y de Todos los Países
4. Biografías Puertorriqueñas: Perfil Histórico de Un Pueblo

33. For a biography about Shakespeare, a good source of information would be:

1. Contemporary Authors
2. Diccionario de Autores de Todos los Tiempos y de Todos los Países
3. Diccionario de Literatura Puertorriqueña
4. Who Was Who in America

34. A critique and plot of the Iliad might be found in:

1. Diccionario de Autores de Todos los Tiempos y de Todos los Países
2. Diccionario de Literatura Puertorriqueña
3. Diccionario Literario de Obras y Personajes de Todos los Tiempos y de Todos los Países
4. Diccionario Enciclopédico Labor

35. General information about the past year's events will appear in:

1. Almanaque Mundial
2. Biblioteca Salvat de Grandes Temas
3. Enciclopedia Guinness de Superlativos Mundiales
4. Breve Enciclopedia de la Cultura Puertorriqueña

36. You need information about why and how "Labor Day" is celebrated, you may consult:

1. Manual de Historia Universal
2. American Book of Days
3. Breve Enciclopedia de la Cultura Puertorriqueña
4. The Europa Year Book

37. A reference source for information published by the Federal Government would be:

1. Libros en Venta
2. National Union Catalog
3. Fichero Bibliográfico Hispanoamericano
4. Monthly Catalog

Continue on the next page
38. A recent article on a given subject which has appeared in a periodical may be found by consulting:

1. a periodical directory such as Ulrich's International Periodical Directory
2. the card catalog
3. a bibliography on that subject
4. a periodical index

39. In order to find out if your library has a particular issue of a periodical you should first consult:

1. the card catalog
2. the library's periodical check-in system
3. a 'Union List' of periodical holdings
IV. True or False: On your "Answer Sheet," draw a circle around the number which corresponds to the correct response.

The following sample of the entries appearing in the index Reader's Guide to Periodical Literature of Oct. 25, 1979, will help you answer the following statements.

MILITARY assistance, Russian
  From Russia with love. T. Szulc. il N Y 12:65 S 24 '79
  PLO's Moscow connection. H. Krosney. il N Y 12:64-9+ S 24 '79

MILITARY bases
  Communities on the Pentagon's hit list. il Nations B u s  67:
    '71-2+ S '79
  see also
  Navy yards and naval stations

MILITARY research
  Scientologists obtain potent hallucinogen. Q N B ; controversy
    over drug abuse by the Army in test programs; BZ tests.
    E. Marshall. il. Science 205:982-3 S 7 '79

You may find the following information in the entries of a periodical index:

40. A critical evaluation of the article.
   1. True  2. False

41. The volume number of the periodical cited.
   1. True  2. False

42. The call number of the periodical.
   1. True  2. False

43. A reference to another heading which is related to the subject at hand.
   1. True  2. False

44. The title of the publication in which the article was published.
   1. True  2. False

45. The date when the article was published.
   1. True  2. False

Continue on the next page
Other information NOT included in the sample above that can be found in a periodical index is:

46. A list of book reviews which have appeared in the periodicals indexed.
   1. True  2. False

47. A list of abbreviations used in the index.
   1. True  2. False

V. True or False: On your "Answer Sheet," draw a circle around the number which corresponds to the correct response.

48. The 'Government Documents' collection in a library is a highly specialized collection available ONLY to scholars doing intensive research.
   1. True  2. False

49. Personnel in the Reference Department of a library should NOT be disturbed by the students.
   1. True  2. False

50. It is possible to secure material from other libraries through Interlibrary Loan.
   1. True  2. False

VII. On your "Answer Sheet," draw a circle around the number or numbers corresponding to your response.

51. Which is your field of study interest?
   1. humanities
   2. social sciences
   3. education
   4. pure and applied sciences
   5. other: explain______________________________
52. How often did you use the library of your high school?

1. daily
2. more than once per week
3. once per week
4. more than once per month
5. once per month
6. once or twice during the semester
7. only when I was assigned work that required its use
8. seldom or never
9. other: explain ____________________________
10. there was no library

53. What use did you make of available library facilities? You may choose all the alternatives which apply to your case.

1. read my own textbooks
2. use 'Reserve' material
3. pleasure reading (novels, popular magazines, newspapers, etc.)
4. look up information for personal use (none class related)
5. do assignments that required library use
6. do class related research
7. other: explain _________________________
8. none

54. Type of instruction received. You may choose all the alternatives that apply to your case.

1. instruction on how to use reference tools such as indexes, bibliographies, encyclopedias, etc.
2. instruction on how to use the card catalog
3. instruction on how to use audiovisual equipment and materials
4. orientation on the facilities (where things are)
5. other: explain ____________________________
6. none

55. In which of the following aspects of library instruction do you feel help is needed in order to be able to use the University library? You may choose all the alternatives that apply to your case.

1. use of the card catalog
2. use of indexes
3. use of audiovisual material and equipment
4. use and choice of reference sources
5. preparation of written papers and bibliographies
6. orientation on the facilities and location of materials
7. other: explain ____________________________
8. none

Continue on the next page
56. The high school where you studied was:
   1. public
   2. private
   3. other: explain

57. City or town where high school was completed (if out of P.R., indicate the city and state).

58. Sex:
   1. male
   2. female
PRUEBA DE CONOCIMIENTO BIBLIOTECARIO

1. Escoge aquella alternativa que mejor contesta o completa la declaración. En su "Papel de Respuestas" haga un círculo alrededor del número

1. Aquella parte de un libro que nos dice acerca del propósito del autor al escribir el libro se llama:
   1. contenido
   2. prefacio o introducción
   3. portada
   4. apéndice

2. Una evaluación crítica de un libro, panfleto o artículo se conoce como:
   1. extracto o resumen
   2. prefacio
   3. introducción
   4. reseña

3. Una lista alfabética de materias, nombres, etc. en un libro o group de libros la cual hace referencia a las páginas o lugar en la obra donde ocurren se conoce como:
   1. un glosario
   2. el contenido
   3. un índice
   4. el apéndice

4. Una lista ordenada de libros con información bibliográfica completa sobre un tema específico, de cierta clase de material, de obras de un autor particular, o de publicaciones de uno o de varios países, se conoce como:
   1. una bibliografía
   2. la tabla de contenido
   3. una serie
   4. un índice

5. Una concordancia es:
   1. una lista cronológica de eventos
   2. una lista alfabética de palabras principales o palabras claves usadas en un libro o de las obras de un autor y que indica el pasaje en que aparecen.
   3. un diccionario alfabético
   4. lo mismo que un glosario

Continúa en la próxima página
6. Otro nombre para un diccionario geográfico es:
   1. una concordancia
   2. un gacetero
   3. un tesauro
   4. una antología

7. Al seleccionar un tema para un trabajo escrito o de investigación, es muy importante que:
   1. haya suficiente material disponible
   2. tengas un interés genuino en el tema
   3. pueda ser completado en el tiempo estipulado
   4. todas las alternativas arriba mencionadas

8. Una cita directa sacada de un libro u otra fuente de información, se reconoce o se le da crédito:
   1. escribiendo una nota al pie de la página indicando la fuente de dónde se sacó la información y la página.
   2. incluyendo los datos bibliográficos del libro en la bibliografía
   3. encerrando la cita entre comillas
   4. todas las alternativas arriba mencionadas.

9. La información necesaria para registrar los datos bibliográficos de un libro por lo general se encuentra en:
   1. la table de contenido
   2. todo el libro
   3. la portada y el verso de la portada
   4. el prefacio
   5. todas las alternativas arriba mencionadas

10. Al escribir una bibliografía, entre otras cosas, se indica:
   1. la edición del libro
   2. el nombre del co-autor
   3. el traductor
   4. los datos sobre publicación
   5. todas las alternativas arriba mencionadas

11. La cita bibliográfica para un artículo de revista incluye:
   1. autor, título, lugar de publicación, casa publicadora y fecha
   2. autor, título del artículo, volumen, fecha y páginas
   3. título de la revista, volumen, fecha y páginas
   4. autor del artículo, título del artículo, título de la revista, volumen, fecha y páginas.

Continúa en la próxima página
12. Las letras, números, figuras y símbolos separados o en combinación asignados al material bibliotecario y conocido como la signatura topográfica indican:

1. la clasificación por materia del material y el lugar que ocupa el material en los anaqueles
2. la cantidad de libros que tiene la biblioteca
3. la cantidad de libros por tema que tiene la biblioteca
4. la secuencia en que los libros fueron adquiridos por la biblioteca

13. Un libro con la signatura topográfica 104.88 se puede encontrar anaquelado entre:

1. 103.99  y  103.999
   A13  y  C26

2. 215  y  368.86
   L9  y  M7

3. 098.102  y  118.2
   C44  y  P2

4. 660  y  910.6
   C12  y  A1

14. Un libro con la signatura topográfica 635.8 se puede encontrar anaquelado entre:

1. 635.8  y  635.85
   B3  y  B31

2. 635.85  y  635.9
   B32  y  B4

3. 635.8  y  635.8
   B32  y  B4

4. 635.85  y  635.85
   B33  y  B331
II. Cierto o Falso: Traza un círculo alrededor del número que corresponde a la alternativa correcta en su "Papel de Respuestas."

La siguiente muestra de una ficha del catálogo te ayudará a contestar las preguntas de cierto o falso que están a continuación.

530
B255 Bennett, Clarence Edwin, 1902-
College physics/by Clarence E. Bennett--
xxiv, 252 p. ill. 21 cm. (College outlines series, no. 21)

First ed. published in 1935 under title:
An outline of first year college physics.

"Tabulated bibliography of standard textbooks": p. ix-xvii.

1. PHYSICS--OUTLINES, SYLLABI, ETC. I. Title

Al consultar la información escrita en las fichas del catálogo, usted puede saber:

15. La fecha de nacimiento del autor del libro
   1. Cierto  2. Falso

16. Dónde y quién publicó el libro
   1. Cierto  2. Falso

17. La edición del libro que está en la biblioteca
   1. Cierto  2. Falso

18. La materia o materias tratadas en el libro
   1. Cierto  2. Falso

19. Si el libro contiene una bibliografía
   1. Cierto  2. Falso

20. Dónde conseguir el libro en los anaqueles
   1. Cierto  2. Falso

Continúa en la próxima página
21. Dónde puede usted encontrar una reseña del libro

1. Cierto       2. Falso

III. Escoge aquella alternativa que mejor contesta o completa la declaración. En su "Papel de Respuestas" haga un círculo alrededor del número correspondiente.

Twain, Mark

see

Clemens, Samuel Langhorne, 1835-1910

22. La información escrita arriba y contenida en una ficha del catálogo, indica que:

1. la información que busca puede encontrarse bajo el encabezamiento Clemens, Samuel Langhorne, 1835-1910
2. la biblioteca NO tiene libros escritos por Mark Twain
3. Samuel Langhorne Clemens es otro autor que ha escrito sobre Mark Twain
4. la información se puede encontrar bajo Twain, Mark

23. Un libro sobre la historia de Francia puede encontrarse en el catálogo de la biblioteca bajo el encabezamiento:

1. FRENCH HISTORY
2. HISTORY
3. FRANCE--HISTORY
4. HISTORY OF FRANCE

24. Un diccionario del idioma inglés aparecería en el catálogo bajo el encabezamiento:

1. DICTIONARIES
2. DICTIONARIES AND ENCYCLOPEDIAS
3. U.S.--DICTIONARIES
4. ENGLISH LANGUAGE--DICTIONARIES

Continúa en la próxima página
25. Una ficha del catálogo con el título La industria de la persuación, se encuentra archivada en el catálogo después de:

1. Individualized learning
2. Individuals
3. La industria religiosa
4. Industrial and scientific French

26. El encabezamiento de materia "SPAIN--BIBLIOGRAPHY--PERIODICALS" se puede encontrar en el catálogo de fichas de la biblioteca después del encabezamiento:

1. SPAIN
2. SPAIN--ANTIQUITIES
3. SPAIN--BIBLIOGRAPHY
4. SPAIN--COLONIES

27. Los encabezamientos de materia sobre la historia de un país están organizados en el catálogo de la biblioteca:

1. cronológicamente
2. por edición
3. alfabéticamente por materia
4. alfabéticamente por autor

28. Para tener una explicación de las abreviaturas usadas en una obra de referencia, primero debes:

1. consultar el glosario del libro
2. preguntarle al bibliotecario por el significado
3. buscar una lista de abreviaturas en el mismo volumen
4. conseguir las explicaciones en el catálogo de fichas de la biblioteca

29. Al seleccionar una obra de referencia para consulta, es importante que se considere si:

1. ha sido redactada por especialistas en la materia
2. cubre la materia de la información que necesitas
3. la edición de la obra es reciente
4. todas las alternativas arriba mencionadas

30. Para conseguir información general sobre diferentes colegios y universidades puedes consultar:

1. una enciclopedia de educación
2. un diccionario de educación
3. un directorio de educación
4. una bibliografía de educación
5. un manual de educación

Continúa en la próxima página
31. Una reseña de un libro publicado recientemente puede encontrarse por medio de:

1. Libros en Venta
2. Reader's Guide to Periodical Literature
3. The World Book Encyclopaedia
4. La Gran Enciclopedia del Mundo

32. Una biografía extensa sobre Carlos Romero Barceló podría encontrarse consultando:

1. Current Biography
2. Webster's Biographical Dictionary
3. Diccionario de Autores de Todos los Tiempos y de Todos los Países
4. Biografías Puertorriqueñas: Perfil Histórico de un Pueblo

33. Para una biografía de Shakespeare, la mayor fuente de consulta sería:

1. Contemporary Authors
2. Diccionario de Autores de Todos los Tiempos y de Todos los Países.
3. Diccionario de Literatura Puertorriqueña
4. Who Was Who in America

34. Una crítica y exposición sobre el contenido de la Iliada puede encontrarse en:

1. el Diccionario de Autores de Todos los Tiempos y de Todos los Países
2. Diccionario de Literatura Puertorriqueña
3. el Diccionario Literario de Obras y Personajes de Todos los Tiempos y de Todos los Países
4. Diccionario Enciclopédico Labor

35. Para información general sobre los acontecimientos del año anterior se puede consultar:

1. Almanaque Mundial
2. Biblioteca Salvat de Grandes Temas
3. Enciclopedia Guinness de Superlativos Mundiales
4. Breve Enciclopedia de la Cultura Puertorriqueña

36. Si necesitas información sobre porqué y cómo se celebra el "Día del Trabajo" puedes consultar:

1. Manual de Historia Universal
2. American Book of Days
3. Breve Enciclopedia de la Cultura Puertorriqueña
4. The Europa Year Book

Continúa en la próxima página
37. Una fuente de referencia para encontrar información publicada por el gobierno de los Estados Unidos sería:
1. Libros en Venta
2. National Union Catalog
3. Fichero Bibliográfico Hispanomericano
4. Monthly Catalog

38. Un artículo reciente sobre un tema aparecido en una publicación periódica puede conseguirse por medio de:
1. un directorio de publicaciones periódicas tal como Ulrich's International Periodical Directory
2. el catálogo de fichas de la biblioteca
3. una bibliografía sobre el tema
4. un índice de publicaciones periódicas

39. A fin de investigar si la biblioteca tiene un ejemplar en particular de una publicación periódica que se recibe en la biblioteca, debes consultar:
1. el catálogo de fichas de la biblioteca
2. el registro de publicaciones periódicas de la biblioteca
3. una lista unionada de publicaciones periódicas que se reciben en el área donde la biblioteca está ubicada.

IV. Cierto o Falso: Traza un círculo alrededor del número que corresponde a la alternativa correcta en su "Papel de Respuestas".

La siguiente muestra de las entradas que aparecen en el índice Reader's Guide to Periodical Literature del 25 de octubre de 1979, te ayudarán a contestar las siguientes declaraciones.

MILITARY assistance, Russian
From Russia with Love. T. Szulc. il M.Y. 12:65 S 24 '79
PLO's Moscow connection. H. Krosney. il NY 12:64-9+ S 24 '79

MILITARY bases
Communities on the Pentagon's hit list. il Nations Bus 67:71-2+ S '79
see also
Navy yards and naval stations

MILITARY research
Scientologist obtain potent hallucinogen. QNB; controversy over drug abuse by the Army in test programs; BZ test. E. Marshall, il Science 205:982-3 S 7 '79

Continúa en la próxima página
Puedes encontrar la siguiente información en las entradas de un índice de publicaciones periódicas:

40. Una evaluación crítica del artículo que aparece en el índice
   1. Cierto  2. Falso

41. El número del volumen de la publicación en que aparece el artículo
   1. Cierto  2. Falso

42. La signatura topográfica de la publicación
   1. Cierto  2. Falso

43. Una referencia a otro encabezamiento de materia relacionada con el tema que tienes a mano.
   1. Cierto  2. Falso

44. El título de la publicación en la cual aparece el artículo.
   1. Cierto  2. Falso

45. La fecha en que apareció publicado el artículo.
   1. Cierto  2. Falso

Otra información que no aparece en la muestra de las entradas presentadas arriba y que puede encontrarse por medio de un índice de publicaciones periódicas es:

46. Una lista de reseñas de libros que han aparecido en las publicaciones periódicas.
   1. Cierto  2. Falso

47. Una lista de abreviaturas usadas en las entradas de índice.
   1. Cierto  2. Falso

V. Cierto o Falso: Traza un círculo alrededor del número que corresponde a la alternativa correcta en su "Papel de Respuestas,"

48. La colección de 'Documentos del Gobierno' de una biblioteca es altamente especializada, disponible SOLO para los eruditos que se involucran en trabajos de investigación.
   1. Cierto  2. Falso

Continúa en la próxima página
49. El personal que trabaja en el Departamento de Referencia de una biblioteca no debe ser interrumpido en su trabajo por los estudiantes.

1. Cierto  2. Falso

50. Es posible conseguir material de otras bibliotecas por medio de Prestamos Interbibliotecarios.

1. Cierto  2. Falso

VI. En su "Papel de Respuestas," haga un círculo alrededor de el número o de los números correspondientes a su respuesta.

51. ¿Cuál es su campo de interés para estudio?

1. humanidades
2. ciencias sociales
3. educación
4. ciencias puras o aplicadas
5. otro: explique ____________________________

52. ¿Cuán frecuente usaba usted la biblioteca de la Escuela Superior donde estudió?

1. diariamente
2. más de una vez por semana
3. una vez por semana
4. más de unz vez por mes
5. una vez por mes
6. una o dos veces por semestre
7. sólo cuando me asignaban un trabajo que requería su uso
8. casi nunca o nunca
9. otro: explique ____________________________
10. no había biblioteca

53. ¿Qué uso hacía usted de las facilidades bibliotecarias? Puede seleccionar todas las alternativas que se aplican a su caso.

1. leer mis propios libros de texto
2. usar material en reserva
3. lectura de placer (novelas, revistas populares, periódico, etc.)
4. buscar información para beneficio personal (no relacionado con clases).
5. hacer asignaciones que requerían el uso de la biblioteca
6. hacer algún trabajo de investigación relacionado con las clases
7. otro: explique ____________________________
8. ninguno ____________________________

Continúa en la próxima página
54. Tipo de instrucción sobre el uso de la biblioteca recibida en la Escuela Superior. Puede seleccionar todas las alternativas que se aplican a su caso.

1. instrucción acerca de cómo usar obras de referencia tales como índices, bibliografías, enciclopedias, etc.
2. instrucción sobre cómo usar el catálogo
3. instrucción acerca de cómo usar equipo y material audiovisual
4. orientación sobre las facilidades (indicación de dónde está cada cosa.)
5. otro: explique______________________________

55. ¿En cuáles de los siguientes aspectos cree usted que necesita ayuda para poder usar la biblioteca universitaria? Puede seleccionar todas las alternativas que se apliquen a su caso.

1. uso del catálogo de fichas
2. uso de índices
3. uso de material y equipo audiovisual
4. selección y uso de obras de referencia
5. preparación de trabajos escritos y bibliografías
6. orientación sobre facilidades, servicios, y localización de los materiales
7. otro: explique______________________________
8. ninguno

56. La Escuela Superior donde estudió era:

1. pública
2. privada
3. otra: explique______________________________

57. Ciudad o pueblo dónde completó la Escuela Superior (se fuera de P.R., indíque la ciudad y el estado).________________________

58. Sexo:

1. masculino
2. femenino

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APPENDIX D

Letter Requesting Permission to Conduct the Study

Communications Granting Permission to Conduct the Study
11 de agosto de 1980

Dr. Vernon Esteves
Decano de Estudios Generales
Universidad de Puerto Rico
Río Piedras, Puerto Rico

Distinguido Dr. Esteves:

Por este medio deseo solicitar de usted la autorización para conducir un estudio que se propone determinar el conocimiento bibliotecario que traen una muestra de los estudiantes que entran a la Universidad de Puerto Rico.

El estudio consiste en administrarle una prueba de conocimiento bibliotecario a una muestra de 100 a 125 estudiantes matriculados en la clase de español básico. De ser posible este plan, es mi intención administrar dicha prueba a las secciones: 1-12, 1-20, 3-107 y 3-140. En caso de que no sea posible hacer el estudio con las secciones ya mencionadas, he hecho provisión para sustituirlas con otras secciones que también he escogido al azar. Agradecería si fuera posible que esta actividad mía se pudiera efectuar en la semana del 18-22 de agosto para así asegurar de que los conocimientos exhibidos en la prueba sean los que en realidad traen estos estudiantes de la escuela superior de donde proceden.

En ocasión previa a este acercamiento a usted, me he comunicado con la Srta. Miriam Visot, quien luego de ayudarme en lo que estuvo a su alcance y darme su aprobación, me ha referido a usted para su autorización y arreglos finales.

Una vez realizado este estudio, será posible basar los programas de instrucción bibliotecaria en datos concretos y reales. Estoy segura de que usted, al igual que yo, tiene mucho interés por saber cuáles serán los resultados de este estudio. Permítame compartir con usted y el Colegio de Estudios Generales de la Universidad de Puerto Rico esta información una vez quede completado el estudio.

Con todo el respeto y admiración por su labor queda de usted,

Atentamente,

Saraí Rodríguez de Pérez
Estudiante de la Escuela Graduada de Bibliotecología en Western Michigan University
13 de agosto de 1980

Prof. María Teresa Socorro
Decana Interina
Fac. de Estudios Generales
Recinto Universitario de São Paulo

Estimada Decana Socorro:

He refiero a la comunicación de la Sra. Saraí Rodríguez de Pérez, con fecha del 11 de agosto de 1980, en la que solicita autorización para administrar una prueba de conocimientos bibliotecarios a una muestra de 100 a 125 estudiantes matriculados en dos cursos de español de la Facultad de Estudios Generales, aunque la señora Rodríguez de Pérez no lo especificó en su carta, tenemos entendido que este estudio forma parte de un proyecto relacionado con sus estudios académicos en la Escuela Graduada de Bibliotecología de Western Michigan University.

Autorizamos a la señora Rodríguez de Pérez a administrar la prueba en cuestión, sujeto a la aprobación de los funcionarios correspondientes en la Facultad de Estudios Generales. De llevarse a cabo el proyecto no debe requerirse a los estudiantes que se identifiquen en forma alguna al contestar la prueba.

Cordialmente,

Vernon R. Esteves
Decano de Estudios

cc: Sra. Saraí Rodríguez de Pérez
Estudiante de la Escuela Graduada de Bibliotecología en Western Michigan University

NOTA: Solicitamos copia de los resultados

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Decanato de Estudios
Forma DE-71-4

HOJA DE ENDOSO

13 de agosto de 1980

A: Prof. María Teresa Socorro
Directora Interina, Fac. Estudios Generales
Recinto Universitario de Río Piedras

Por: Vernon R. Estevas, Decano de Estudios

Los documentos adjuntos, recibidos en el Decanato de Estudios, se refieren a usted para:

_____ Ser devueltos con sus recomendaciones
_____ Su consideración
_____ Trámite
_____ Sus archivos
XXX : Su información
XXX ___ Acción correspondiente

AJUNTO: COMUNICACION DE LA SRA. SARAI RODRIGUEZ DE PEREZ, ESTUDIANTE DE LA
ESCUELA GRADUADA DE BIBLIOTECOLOGIA EN WESTERN MICHIGAN UNIVERSITY

OBSERVACIONES: Adjunto encontrará copia de la contestación de la comunicación que recibíamos (12 de agosto de 1980) para que se la haga llegar a la estudiante debido a que no tenemos en nuestras manos su dirección.
APPENDIX E

Formulas Used in Making Computations.
FORMULAS USED

1. For the Mean:
\[ \bar{X} = \frac{\sum fx}{N} \]

2. For the Quartile Scores:
\[ X_p = L + i \left( \frac{NP - NL}{f} \right) \]

3. For the Standard Deviation:
\[ SD = \sqrt{\frac{\sum X^2 - \left( \frac{\sum X}{N} \right)^2}{N}} \]

4. For the t-Test for Independent Variables:
\[ t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\sum X_1^2 + \sum X_2^2}{n_1 + n_2 - 2} \left( \frac{1 + 1}{n_1 \cdot n_2} \right)}} \]

\( \bar{X} \) = mean

\( f \) = frequency

\( N \) = number of scores

\( \Sigma \) = sum

\( P \) = percentile

\( L \) = lower limit of the interval in which \( X_p \) is located

\( i \) = width of the interval in which \( X_p \) is located

\( NL \) = cumulative frequency corresponding to the interval immediately below that in which \( X_p \) is located
BIBLIOGRAPHY


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