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# A Descriptive and Exploratory Study of the Correspondence Study Division of a Privately Based Institution in a Large Metropolitan Area

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A DESCRIPTIVE AND EXPLORATORY STUDY  
OF THE  
CORRESPONDENCE STUDY DIVISION  
OF A PRIVATELY BASED INSTITUTION  
IN A LARGE METROPOLITAN AREA

by

Donald M. Cunningham, S.J.

A Dissertation Submitted to the Faculty of the Graduate School  
of Loyola University of Chicago in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Philosophy

June

1975

## ACKNOWLEDGMENTS

Prayer is the little implement  
Through which men reach  
Where presence is denied them.  
They fling their speech

By means of it in God's ear;  
If then He hear,  
This sums the apparatus  
Comprised in prayer.

Emily Dickinson

What she has done with this little implement only two persons really know. Neither of them is this author. He is the beneficiary. The one who has been speaking and the Listener alone really know. The beneficiary is the one who thanks. He dedicates this work, then, to his Mother.

Marie Cocagne Cunningham.

\* \*

So many friends know, too, how they have helped make this goal a reality. The author trusts (friends are allowed to presume) they know the limitations of page and print. But they, too, are present with him. They have allowed him to share his joy with them.

Thank you!

## LIFE

The author, Donald Matthew Cunningham, S.J., is the son of Matthew Cunningham and Marie (Cocagne) Cunningham. He was born February 16, 1933, in Vandalia, Illinois.

His elementary education was obtained in the public school system in Niantic, Illinois, and the Catholic parochial system at St. James Grade School, Decatur, Illinois. His secondary education was obtained at St. Teresa High School, Decatur, Illinois, where he graduated in 1951.

In August, 1951, he entered the Society of Jesus at Florissant, Missouri, and began his university undergraduate studies at St. Louis University, St. Louis, Missouri. He received his degree of Bachelor of Arts with a major in philosophy and letters from St. Louis University in June, 1957. In July, 1958, he was also awarded the degree of Licentiate in Philosophy from St. Louis University. He was ordained to the Roman Catholic Priesthood in the Society of Jesus in June, 1964. In February, 1966, he was awarded the degree of Bachelor of Theology from St. Louis University. Later the author pursued studies at Loyola University of Chicago and was awarded the Master of Education degree in guidance and counseling in June, 1968.

During the time he was pursuing his doctoral degree, the author served as a high school counselor and chaplain, as an educational research intern, as a research assistant in the Department of Foundations, the School of Education, and as Research Assistant to Dr. Samuel T. Mayo, Director, Educational Research Training Program. Dr. Mayo has

served as his advisor throughout the author's studies. Most recently the author has held the position of Assistant to the Vice-President and Dean of Faculties, Loyola University of Chicago. He has served in this position from 1969 to the present.

The author was invited to present this research in a paper at the annual meeting of the National University Extension Association, Correspondence Study Division, in San Juan, Puerto Rico, April 26-30, 1975. He delivered his paper to the Division on April 27, 1975. He was also invited to present the research at the meeting of the Tenth International Conference of the International Council on Correspondence Education, in Brighton, England, May 12-16, 1975.

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## CHAPTER ONE

### INTRODUCTION

In its Annual Report, 1971, the North Central Association's Commission on Institutions of Higher Education acknowledged the presence of educational innovations, observing how new methods of teaching and learning are found alongside more traditional institutions.<sup>1</sup> Recognizing a responsibility to recommend appropriate evaluation procedures for these newer modes and structures, the Committee listed three forms evaluation could take:

- (1) Direct measurement of student progress toward desired objectives,
- (2) Analysis of the educational experiences available to the student,
- (3) Consideration of the way in which decisions on matters of institutional policy are made.<sup>2</sup>

The goal of the adaptation of these recommendations is expressed by the Committee: "There will . . . be a recording of priorities and significant changes in the kinds of data to be emphasized."<sup>3</sup>

Correspondence instruction cannot be listed among the new modes of teaching and learning. It is, as Morton states, one of the early exten-

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<sup>1</sup>Commission on Institutions of Higher Education, The North Central Association of Colleges and Secondary Schools, Annual Report, 1971 (Chicago) 1972, p. 3.

<sup>2</sup>Ibid., p. 10.

<sup>3</sup>Ibid.



sion activities in the university setting.<sup>4</sup> It dates from the days of Dr. William Rainey Harper (1856-1906) who, as the first president of the University of Chicago, established the first university correspondence teaching department.<sup>5</sup>

Nonetheless, this study will suggest that a new approach to evaluation of an older mode of teaching and learning can assist in the reordering of priorities where needed. The kinds of data used in this descriptive and exploratory study are not new. The emphasis given the data is more recent. This study--its hypotheses, its data, its statistical structure--is designed to achieve the goal stated by the Commission on Institutions of Higher Education. Professionals in the field of correspondence instruction have voiced a need for such self-analysis. Childs (1961) has remarked:

We need research to help us improve our procedures. Much of what we do now in correspondence study we do because we inherited it. . . .Undoubtedly much of what we do is good. But we don't really know this because little of it has been subjected to searching examination to determine whether it is better than something else we might be doing. There is practically no research in the area of the methodology of correspondence instruction. . . . We need to give consideration to research which has already been completed, that which is now in progress and more specifically

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<sup>4</sup>John R. Morton, University Extension in the United States (Birmingham: University of Alabama Press) 1953, p. 43.

<sup>5</sup>Ossian MacKenzie and Edward L. Christensen, (editors) The Changing World of Correspondence Study, International Readings (University Park: The Pennsylvania State University Press) 1971. Today Dr. Harper is referred to as the father of correspondence teaching; this recognition he deserves. He participated in organizing the system of correspondence teaching upon which the Chautauqua College of Liberal Arts depended to reach its scattered following during the early 1880s. Dr. Harper, who established the first university correspondence teaching department when he became the first president of the University of Chicago, was one of the most interested innovators and ablest representatives of correspondence teaching, p. 7.

than I have done up to now, to that which we need to conduct in the future.<sup>6</sup>

A method of instruction as adequate as any other can benefit from a careful examination of its own input into the learning process. Self-examination of the system is appropriate, particularly since past studies of the comparative effectiveness of differing modes of teaching and learning have been inconclusive. In his address to the Eighth Conference of the International Council on Correspondence Education, Childs (1969) implied this:

In 1932 Longstaff reviewed the literature up to that time on this type of experimentation [comparative studies of general methods of learning]. Ten years later, in 1942, Wolfie summarized research between 1932 and 1942. He summarized his findings by repeating Longstaff's statement of 1932: 'The experimental evidence submitted to the present time tends to support the general conclusion that there is little difference in achievement in large and small classes, and, also, that it makes little difference as to what method of presentation of the materials of the course is used.'

Thirteen years later, in 1955, Birney and McKeachie reviewed the research literature on this subject and stated: 'The third decade of research has not outdated Longstaff's statement (of 1932).'

Probably the most definitive effort to resolve this question was that of Dubin and Tavaglia, of the University of Oregon, who published their results in 1968. . . . They report 'the results of a reanalysis of the data from 91 comparative studies of college teaching technologies conducted between 1924 and 1965.' The so-called technologies involved were the lecture method, the discussion method, the tutorial method, supervised independent study and unsupervised independent study. Research studies of all possible

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<sup>6</sup>Gayle B. Childs, "Correspondence Study Research," Proceedings of the Sixth International Conference of the International Council on Correspondence Education (Eugene, Oregon: General Extension Division, Oregon State System of Higher Education) 1962 p. 115.

Also see Stein, page 17, footnote 50.

relationships of these methods were studied and the data cumulated. They conclude:

'For approximately four decades researchers have been attempting to compare and contrast face-to-face methods of teaching, experimentally, in college and university classrooms. The central problem for research has been defined as one of finding the method or methods of teaching which will maximize desired consequences among students. . . . The results of this research are clear and unequivocal -- no particular method of teaching is measurably to be preferred over another when evaluated by student examination performances.'

It must be noted that the Dubin report is concerned only with studies involving college instruction. . . . But the report does suggest that there would be little profit in comparing college correspondence study with special methods such as lecture and discussion in the classroom since, according to the evidence, these methods produce equivalent learning results.<sup>7</sup>

In 1973 Childs emphasized:

It [the method of instruction] just doesn't make any difference. . . . It is necessary, if learning is to occur, that sensory impressions be received by the learner. There must be an input of information which is the basis for learning. But there is no consistent evidence which establishes that any one form of providing this input is superior to others. In fact, the evidence is overwhelmingly to the contrary.<sup>8</sup>

### A Descriptive and Exploratory Study

In providing information for subsequent evaluation and decision making about improvements, alterations, and reordering of priorities within

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<sup>7</sup>Gayle B. Childs, (Chairman of the Committee on Research), "Reports from Chairmen of Standing Committees," Proceedings of the Eighth International Conference of the International Council on Correspondence Education, Renee Erdos (editor) (Paris: Unesco House) 1969, p. 57.

<sup>8</sup>----- "Correspondence Study: Concepts and Comments," an unpublished address to the Correspondence Study Division of the National University Extension Association, Omaha, Nebraska. April, 1973.

correspondence instruction, this study is descriptive and exploratory.

Riley's observations on descriptive research in sociology are also suited to this educational study. Descriptive studies are likely to cover a wide range of detail and identify broad scopes within a system. Various processes and behavior patterns latent or otherwise not known are exposed.<sup>9</sup> The hypotheses examined in this study are intended to answer such a query: Is it possible that certain three-dimensional relationships in correspondence instruction will reveal patterns and processes within this method that have been previously unknown?

Survey studies in descriptive research, states Van Dalen, organize and inspect educational data in four broad categories:

- (1) The setting of learning,
- (2) The characteristics of educational personnel,
- (3) The nature of the pupils,
- (4) The nature of the educational process.<sup>10</sup>

Van Dalen adds a refinement to descriptive research. Observing that documentary analysis is one of several forms of survey study in descriptive research,<sup>11</sup> he states, "Historical [documentary] analysis is primarily concerned with the more distant past and descriptive [documentary] research with the present."<sup>12</sup> Patterns and

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<sup>9</sup>Matilda W. Riley, Sociological Research: A Case Approach (New York: Harcourt, Brace and World, Inc.) 1963 pp. 69-70.

<sup>10</sup>Deobold B. Van Dalen, Understanding Educational Research (New York: McGraw-Hill Book Company) 1966, p. 208.

<sup>11</sup>The forms are: (1) School Surveys, (2) Job Analysis, (3) Documentary Analysis, (4) Public Opinion Surveys, and (5) Community Surveys. p. 207.

<sup>12</sup>Ibid., p. 211.

processes in correspondence instruction that may have been previously unknown can be examined within frameworks of strengths, priorities, weaknesses and change. Emphasis was given to this outlook for correspondence instruction by Childs over twenty years ago (1953):

If progress is to be made, I should say that four things are essential,

First, we must see correspondence study realistically. We must clearly understand what it is and must recognize its strengths and its weaknesses.

Second, we must recognize that correspondence study is but one agency for the providing of education. We must see the role which correspondence study is to play within the entire framework of education if we are to work to develop that role.

Third, we must determine how well correspondence study is now being used to carry out the purposes it is best designed to serve.

Fourth, we must devise procedures which will help correspondence study to fulfil its essential role.<sup>13</sup>

Data of the more recent past available for this study are analyzed in questions of current concern to professionals in correspondence instruction. Analysis of their concerns will assist in realizing the present advantages of correspondence instruction in one privately based institution of higher education. These advantages are related to the benefits that come from descriptive, documentary analysis. Van Dalen explains:

Documentary analysis may help educators (1) describe specific conditions and practices. . . , (2) spot trends, (3) detect weaknesses, (4) trace the development of a student's . . . work,

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<sup>13</sup>Gayle B. Childs, "Supervised Correspondence Study," Proceedings, Fourth International Conference on Correspondence Education (State College, Pennsylvania: The Pennsylvania State College General Extension Services) 1953, p. 99.

(5) discover differences in the practices that prevail in various areas . . . . (6) evaluate the relationships of stated objectives and what is being taught, and (7) detect the biases, attitudes, interests, values, and psychological states of people.<sup>14</sup>

It is the judgment of this investigator that the broad scope given by Riley to the conceptual model in research should also be given to the hypothesis. "The conceptual model is a heuristic device serving to guide the formulation and solution of...problems," she writes.<sup>15</sup> Extending this statement, this investigator claims a hypothesis should be equally heuristic. Hypotheses should try to lead to better insights into problems. They generate further research so that the collation of specific research findings assists in the formulation of general theory.

Competent research also identifies relationships among and between variables. An interrelationship study is thus another form of descriptive research.<sup>16</sup> The hypotheses studied in this work are of this nature. Thus, the question first presented on page five can be reformulated: Is it possible that the frequency of occurrence of three-dimensional interrelationships under examination will reveal patterns and processes? What insights into problems and patterns may be provided by the knowledge of such relationships?

Using the three-dimensional chi-square statistical model for analysis, this study seeks to uncover significant and non-significant interrelationships within correspondence instruction. Riley<sup>17</sup> identifies

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<sup>14</sup>Ibid., p. 213

<sup>15</sup>Riley, *ibid.*, p. 15.

<sup>16</sup>Van Dalen, *ibid.*, p. 203, 206.

<sup>17</sup>Riley, *ibid.*, p. 14.

this approach as exploratory. Such research does not presume to have predictive power, though there is an exploratory aspect in its descriptive approach.<sup>18</sup> While such study describes what exists without claiming to uncover causes, Van Dalen does give credit to its practicality:

Descriptive studies that obtain accurate facts about existing conditions or detect significant relationships . . . and interpret the meaning of the data provide educators with practical and immediately useful information.<sup>19</sup>

He refers to the discovery of relationships (what Riley has identified as discovering wide ranges of detail in an exploratory study) and continues:

Descriptive studies that discover the presence or absence of an association between variables serve as pilot projects. They screen out unpromising hypotheses and detect relationships between variables that experimentation can study profitably under more rigorously controlled laboratory conditions.<sup>20</sup>

The information gathered from this study, statistically significant and non-significant, will help to identify, to describe, to screen, and to interpret the relationships under investigation. The work is therefore a pilot project. Critical judgments about the method of correspondence instruction are the responsibility of the professionals who have rated the importance of the hypotheses to be examined.

Hemphill (1969) writes of the ideal research study, and states that the quality of such investigation is reflected in the following observations:

- (1) Problem selection and definition is the responsibility of the individual doing the research;

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<sup>18</sup>Van Dalen, *ibid.*, p. 239.

<sup>19</sup>*Ibid.*, p. 235.

<sup>20</sup>*Ibid.*, p. 238.

- (2) Tentative answers (hypotheses) to the problem may be derived by deduction from theories or by induction from an organized body of knowledge;
- (3) Value judgments by the researcher are limited to those implicit in the selection of the problem;
- (4) Given the statement of the problem and the hypothesis, the research can be replicated;
- (5) The data to be collected are determined largely by the problem and the hypothesis;
- (6) Relevant variables can be controlled or manipulated, and systematic effects of other variables can be eliminated by randomization.<sup>21</sup>

Wherever and whenever approaches to learning and teaching are made for the achievement of goals, assessment of products is essential. Bases for critical judgment about the effectiveness and efficiency of the methods must be developed:

Continuing assessment of the product. . .is necessary. This means the development of principles and techniques for critically judging the worth. . .and the effectiveness and efficiency of...methods of instruction.<sup>22</sup>

But as Hemphill also points out, precision of information should not stifle the drive to find useful information:

Evaluation studies are made to provide a basis for making decisions about alternatives. . . .Regardless of the lack of precision in thinking, providing information for choice among alternatives remains the basic and utilitarian purpose of evaluation studies.<sup>23</sup>

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<sup>21</sup>John K. Hemphill, "The Relationships Between Research and Evaluation Studies," Educational Evaluation: New Roles, New Means, The Sixty-eighth Yearbook of the National Society for the Study of Education, Part II, Ralph W. Tyler (editor) (Chicago: The University of Chicago Press 1969, pp. 190-1).

<sup>22</sup>Research and Policy Committee of the Committee for Economic Development, Innovation in Education: New Directions for the American School (New York: Committee for Economic Development) 1968, p. 17.

<sup>23</sup>Hemphill, *ibid.*, pp. 189-190.



This study will provide information for subsequent evaluation. It does not propose to critically judge correspondence instruction. In demonstrating a newer, more critical approach for obtaining information about this early university extension activity, the work will invite correspondence instruction to use of the information for self-study about priorities, changes, weaknesses and strengths.

### Research in Adult Education

As research review writer for Adult Education, Kaplan (1959) reported the number of research studies in the general area of adult education ranged from one in 1955 to twenty-three in 1959. More noteworthy are the research method studies in adult education for the same period:

1955	-	3
1956	-	0
1957	-	1
1958	-	0
1959	-	0

He remarked:

Through the years in which Research Review has been presented the writer has been especially struck with the paucity of studies dealing with the philosophy, values and objectives of adult education.<sup>24</sup>

Later, in 1963, while emphasizing a need for experimental research studies in the field, he wrote of the lack of research prior to 1957. Bridging the seven-year period, 1957-1964, in a single remark he spoke of the lack: "The situation has not improved materially since that time

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<sup>24</sup>Abbott Kaplan, "Introduction to Research Review," Adult Education, Volume 9, Number 4, (Summer, 1959), p. 195.

[1957].<sup>25</sup>

One year later (1965) the Chairman of the Adult Education Association Committee on Research remarked on this topic:

A survey of the AEA membership several years ago indicated that members believed that stimulation of the production and utilization of adult education research should be one of the highest priority responsibilities of the Association. . . .The twin questions to which the Commission on Research has addressed itself are, How can more competent researchers be encouraged to produce research relevant to adult educators; and How can adult educators be encouraged to utilize the research findings in more effective practice.<sup>26</sup>

The paucity of (and therefore the need for) research is a recurrent theme among professionals in adult education. Shockingly little is conducted the country over, writes Brunner (1960).<sup>27</sup> Testable hypotheses of predictive value are now needed.<sup>28</sup> Demographic studies of clientele, teachers, leaders and programs are in such quantity as to lose value, claim Thiede and Draper (1963).<sup>29</sup>

Montross (1966), looking more closely at one area of adult education -- university extension -- stated with some prophetic hope:

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<sup>25</sup>-----, "Continuing Education," Journal of Higher Education, Volume 34, Number 8 (November, 1963), p. 470.

<sup>26</sup>Alan B. Knox, "Research and the Adult Educator," Adult Leadership, Volume 14, Number 1, (May, 1965), p. 13.

<sup>27</sup>Edmund deS. Brunner, "Adult Education and Its Research Needs," Adult Education, Volume 10, Number 4 (Summer, 1960), p. 218.

<sup>28</sup>George H. Axinn, "Rigor in Cooperative Extension Graduate Research," Adult Education, Volume 10, Number 4 (Summer, 1960), p. 230.

<sup>29</sup>W. Thiede, and J. Draper, "Research and Investigations in Adult Education," Adult Education, Volume 13, Number 4, (Summer, 1963), p. 216.

Present studies relating to Extension as an object of research, as might be expected, tend to be descriptive and historical-sociological in nature and tend to examine Extension in the context of the larger institutions within which it resides. More sophisticated research designs ought to be expected as institutions continue to place greater emphasis upon the Extension function.<sup>30</sup>

Documentary evidence of the need for research in adult education continues throughout the literature. A noteworthy emphasis of this need comes from inspection of the professional journal of the Adult Education Association, Adult Education. From its beginning in October, 1950, until the close of volume 17 in the summer of 1967, remarks on this need are repeatedly found in every volume. Beginning with volume 18 in the fall, 1967, the journal while retaining its name, added a subheading to the front cover: A Journal of Research and Theory. Since that time the inside front cover has carried the statement:

Adult Education is devoted to research and theory in the field of adult education. The emphasis of Adult Education is on research, theoretical studies, and articles dealing with philosophical issues in adult education.

Articles primarily concerned with the implementation of the arts and techniques of practice are included within the scope of Adult Leadership, published monthly by the Adult Education Association of the USA.<sup>31</sup>

It is not apparent that any issue of Adult Education immediately

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<sup>30</sup>H.W. Montross, "Research and University Extension," Educational Forum, Volume 30, Number 4, (May, 1966), p. 506.

It is a judgment of this investigator that Correspondence Instruction has generally been examined within a larger context of comparative data on methods of teaching and learning. The net result of this, already mentioned by Childs (page 4, footnote 8), leads this investigator to suggest that self-examination of the system of Correspondence Instruction is therefore in order. The statistical method offered in this study should help to place a greater emphasis upon the Correspondence function.

<sup>31</sup>See the inside front cover of issues of Adult Education, Fall, 1967, to present.

preceding volume 18 announced this change. The cover style and new sub-heading, the official policy statement inside the front cover, and the articles in subsequent issues attest to the importance the professionals in adult education have placed on their own recognized needs.

Kidd (1959), reviewing An Overview of Adult Education Research, edited by Brunner, Wilder, Kirchner and Newberry, summarized research in this area with a conclusive statement: "This book shows plainly that more research is needed."<sup>32</sup>

### Research in Correspondence Instruction

What makes Kidd's observation more notable still is that Stein (1961) applies it to correspondence instruction when he refers to the same work:

[This book] published by the Adult Education Association in 1959, contains only a few brief and passing references to c/s [sic] -- reflecting the fact, of course, that almost no research has been published on the use of our medium for adults.<sup>33</sup>

Stein is quick to state that this scarcity of information on correspondence instruction is no fault of the editors:

That Brunner and his associates give c/s scant attention . . . is certainly not those scholars' fault; they could take only what they found -- and they found very little.<sup>34</sup>

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<sup>32</sup>J.R. Kidd, "Professional Literature," Adult Education, Volume 10 Number 4, (Autumn, 1959), p. 57.

<sup>33</sup>Leonard S. Stein, "Is Home Study a Stepchild?" Home Study Review, Volume 1, Number 4 (Winter, 1961) p. 33.

<sup>34</sup>Ibid., p. 35.

The fact that ten years later (1971) Stein's remarks were considered sufficiently accurate to be incorporated in another work, The Changing World of Correspondence Study, is worthy of notice.<sup>35</sup>

In 1962 Childs had remarked, "We do have some unresolved problems in correspondence instruction."<sup>36</sup> But problems, as Wedemeyer states, are not always the result of carelessly permitted deficiencies in the system. Correspondence instruction of its nature has specific hazards wherein problems may arise, and:

Ignoring these problems, or failing to work imaginatively to overcome them, may offer greater hazards for the correspondence students than students of other methods.<sup>37</sup>

"It is our job to make correspondence study even better," writes Childs. "This we cannot do unless we know some of the areas in which it suffers handicaps either internally or externally imposed."<sup>38</sup> As Chairman of the Committee on Research for the International Council on Correspondence Education (1969) he spoke of this lack. He echoed the remark of Stein and the comments of Kaplan (1959, 1964)<sup>39</sup> concerning adult education:

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<sup>35</sup>Ossian MacKenzie, and Edward L. Christensen, *ibid.*, pp. 90-103.

<sup>36</sup>Gayle B. Childs, "Problems of Teaching by Correspondence Study," The Changing World of Correspondence Study, Ossian MacKenzie and Edward L. Christensen (editors) 1971, p. 109.

<sup>37</sup>Charles A. Wedemeyer, "Problems in Learning by Correspondence Study," The Changing World of Correspondence Study, Ossian MacKenzie and Edward L. Christensen (editors) 1971, pp. 126-127.

<sup>38</sup>Childs, Fourth International Conference, p. 102.

<sup>39</sup>Pages 10 and 11, footnotes 24 and 25.

At the time of the Seventh International Conference held in Stockholm in 1965 I prepared a paper on research in the field of correspondence study. . . . In that paper, I made the statement that 'It is probably safe to say that if one were to make a list of the areas of notable achievement in the correspondence study field, research would not head the list.' I am afraid that today, four years later, one would be on equally safe ground in making that statement.<sup>40</sup>

And what Thiede and Draper (1963)<sup>41</sup> observed of extension is just as true of correspondence instruction. The quantity of demographic material is great, but its value is not as great. Self-examination shows it is "largely our own fault" if scholars and foundations give correspondence instruction little serious attention. A professional role must be adopted, asserts Stein, if the stepchild of education is to acquire new status. The method has the material to achieve new status:

We must make clear what c/s can and cannot do; in what subjects and for what kinds of learning (skills, knowledge, understandings, etc.) the medium is effective and for kinds not, for what kinds of people it is useful and for whom not.<sup>42</sup>

Childs was observing the same thing eight years earlier, in 1953.<sup>43</sup> In 1962 he made a similar statement.<sup>44</sup>

It is not possible to simply declare that correspondence instruction is "handicapped by professionals who refuse to recognize or even consider

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<sup>40</sup>Childs, Eighth International Conference, p. 40.

<sup>41</sup>Page 11, footnote 29.

<sup>42</sup>Stein, *ibid.*, p. 17.

<sup>43</sup>Page 6, footnote 13.

<sup>44</sup>Page 3, footnote 6.

correspondence courses as useful training." To know how the "uninformed continue to regard home study as an inadequate means of gaining knowledge, or, at best a second-rate way to learn,"<sup>45</sup> is to provide little positive assistance in research. Hemphill's observation that any attempt to provide useful information is a good one, is more to the point.<sup>46</sup> Conversely, Driscoll's (1972) statement requires attention:

Unfortunately, we are still having some research on matters that have already been adequately researched in the past, and, too often, a continuing lack of application of existing research.<sup>47</sup>

Correspondence instruction is an effective way to learn.<sup>48</sup> It needs no apologies. There is "no consistent evidence supporting a claim of superiority of one method over another." Childs spoke at great length to demonstrate this simple fact.<sup>49</sup> Research, however, must be encouraged as

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<sup>45</sup>Robert Allen, "Must Home Study Be a Stepchild of Education?" Home Study Review (Spring, 1960), Volume 1, no. 1, p. 21.

<sup>46</sup>Page 9, footnote 23.

<sup>47</sup>William Driscoll, "New Developments and Changes in Independent Study: U.S.A.," Ninth International Conference on Correspondence Education, A Collection of Conference Papers, Volume 1 (Bloomington, Indiana: Indiana University), 1972, Henry A. Bern (editor) p. 59.

<sup>48</sup>Allen, *ibid.* The nagging question always asked about correspondence courses is, "Can you really learn by mail?" That, of course, depends a great deal on the student's own interest and ability. It is still up to the individual. Men like David Sarnoff, Walter P. Chrysler, Senator Stuart Symington and thousands of other highly respected men and women found that home study helped in their climb up the ladder. One out of every four of the Certified Public Accountants in this nation learned their profession via correspondence, and one out of every ten licensed professional engineers is a home-study graduate. pp. 19-20.

<sup>49</sup>Cf. pages 3-4, footnote 7.

integral to the method. Data exist in abundance; making the data available will encourage the research. The very existence of unresolved problems suggests the availability of data that will generate questions, investigations, hypotheses, and applications of research designs. "In all areas we need both speculative analyses and empirical studies."<sup>50</sup> Eight years after Stein's comment, Mackenzie (1969) spoke of the same matter. Two years later still (1971) the same observation was so valid as to be part of his work with Christensen in The Changing World of Correspondence Study:

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<sup>50</sup>Stein, *ibid.*, p. 38. Our most serious shortcoming in this respect is our failure to communicate important findings about our professional activity to other branches of the American educational enterprise. One looks almost in vain for the articles in educational journals assessing with precision and skill the usefulness of a c/s program. . . . It is impossible to find in the professional literature any reliable statistics on the use of c/s, even such simple figures as annual enrollments. We avoid like the plague any public admissions about completion rates -- although, in fact, we are the only educational medium that has available this easily determined measure of effectiveness.

Another major failing from which we all suffer is our implicit assumption that resident study is the "right" way to learn. We have not viewed c/s as a content field and medium with its own demands, functions, and effectiveness, but have instead modeled our activities on the resident pattern, and, indeed, typically compare our effectiveness with resident situations. . . .

Only rarely does one of us start with the question: What medium can best be employed to teach the subject at hand to the clientele we want to reach? Even more rarely is the correlative question raised: What are the particular pedagogical characteristics of the c/s medium that make it effective for the subject and clientele at hand?

In short -- we have been less inventive, we have shown less initiative, we have invested less of ourselves, than we should have. pp. 34-35.

Childs has written in a similar manner:

But when it comes right down to it, what do we really know about the teaching methods we employ in correspondence study? About how many of them can we say, with reasonable certainty, that they are better than other methods we might be using instead? Ossian Mackenzie and Edward L. Christensen, *ibid.*, p. 116.



We found that correspondence instruction is not well understood . . . . No real study had been made of the types of material and subject matter that can best be taught by the method, important though the question is.<sup>51</sup>

An exploratory attitude is a first step toward self-analysis.

Examination of the qualities and characteristics of correspondence instruction without reference to other media is essential.

What has happened to research in correspondence instruction? One cannot say, "Nothing." But Childs' observation cannot be ignored: "Evidences of carefully done research are still hard to come by."<sup>52</sup> Enumerating one of five areas requiring investigation he wrote: "We must examine the methodology of correspondence study to determine how it may be improved."<sup>53</sup> He stated the problem more humorously in a summary of research in correspondence instruction (1973) when he said:

I want to reduce it [ ] that methods of learning make no difference, as research has found [ ] to a profound, carefully and precisely worded psychological principle which I will call Childs' first law of impact of method on the human organism. It reads, "Insofar as general educational methodology is concerned, the brain doesn't give a damn."<sup>54</sup>

#### PERIOD!

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<sup>51</sup>Ossian MacKenzie, "The Status of Correspondence Instruction in the United States," Proceedings of the Eighth International Conference of the International Council on Correspondence Education, Renee Erdos (editor) (Paris: Unesco House) 1969 pp. 78-9. Also in The Changing World of Correspondence Study by Ossian MacKenzie and Edward L. Christensen (editors) (University Park: The Pennsylvania State University Press), 1971 p. 361.

<sup>52</sup>Childs, Eighth International Conference, p. 40.

<sup>53</sup>----- "Problems of Teaching by Correspondence Study," in MacKenzie and Christensen, p. 118.

<sup>54</sup>Gayle B. Childs, "Correspondence Study: Concepts and Comments," unpublished address, April, 1973, p. 5.

The Correspondence Study Division  
Loyola University of Chicago

The Correspondence Study Division of Loyola University of Chicago has several unique features. It was the only such division of a Catholic college or university under contract with the United States Armed Forces Institute (USAFI).<sup>55</sup> It is the only correspondence study division of a Catholic institutional member of the National University Extension Association. It is affiliated with the Hadley School for the Blind, Winnetka, Illinois, the only school in the world that provides correspondence courses for the blind.<sup>56</sup> Finally, the University to which the Division belongs is one of two Catholic universities in the world that provides a means of gaining college credit by the correspondence method.<sup>57</sup> For more than fifty years Loyola University of Chicago has offered this means of independent study to students throughout the United States and the World.

The Correspondence Study Division<sup>58</sup> began in the Fall of 1921.

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<sup>55</sup>An Act of the Congress of the United States discontinued USAFI in 1974.

<sup>56</sup>The Hadley School for the Blind currently advertises the availability of over 100 educational and vocational courses by the correspondence method.

<sup>57</sup>The other institution is the University of Ottawa, Canada.

<sup>58</sup>From 1921 to the present, the Division has been known as the School of Home Study (1921-1923), the Home Study Department (1923-1936), the Home Study Division (1936-1967), and the Correspondence Study Division (1967-present). From 1932 to 1936 it appears that the bulletins of courses do not carry an official title for the Division. The title on the covers states Home Study Courses. It is assumed that during this time the Division was known as the Home Study Department.

Evidence for this is in three typed pages of information, part of a collection of bulletins of courses from 1923 to the present in the offices of the Division.<sup>59</sup> The philosophy, regulations, and courses of the SCHOOL OF HOME STUDY are described:

The SCHOOL OF HOME STUDY offers correspondence courses. An opportunity to pursue collegiate courses for those unable to attend classes, but who wish to continue their education towards a bachelor's degree.

Each major credit (three and one-third semester hours) consists of twenty double lessons by mail. The fee for each major credit course is \$20.00, in advance.

Courses may be begun at any time and a year is allowed for their completion. No courses may be completed in less than four months. Eighteen majors of home study courses may count towards a bachelor's degree.

These courses are arranged for teachers and social workers and especially for members of religious sisterhoods.

Owing to the recent organization of the SCHOOL OF HOME STUDY, only a limited number of courses are at present offered. Additional courses will be gradually added.

A list of ten courses follows: Social Sciences (5); Languages -- English and Latin (4); Logic (1). The last paragraph above, and the concluding paragraph of the three pages, suggest that the information can be dated as approximately 1921 or 1922, since the first extant printed bulletin is dated December, 1923:

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<sup>59</sup>These pages were saved in typed form by Miss Mary Louise McPartlin, Director, Correspondence Study Division (1952 to present). The primary source material was fragmentary and in desrepair. Miss McPartlin typed the pages to complete the collection of bulletins of courses. The location of the SCHOOL OF HOME STUDY was given as 155 North Clark Street, Chicago, Illinois. The date of this information, according to Miss McPartlin, is Fall, 1921.

These courses are for college credit and presuppose high school graduation. Write for application blank. General catalogue will soon be issued.

Information from all bulletins, 1923 to the present, indicates that two women have served as heads of this Division. In the bulletin, December, 1923, Marie Sheahan is named as Head of the Home Study Department. She retained this title until the publication of the bulletin in December, 1927. From that date until 1952 she was known as the Director of the Home Study Department and of the Home Study Division.

From 1952 to the present Miss Mary Louise McPartlin has assumed responsibility for this Division. From 1952 to 1967 she was known as the Director of the Home Study Division; from 1967 to the present as Director of the Correspondence Study Division.<sup>60</sup>

It is not the purpose of this study to present detailed history of the Correspondence Study Division of Loyola University of Chicago. However, certain developments and changes between 1923 and the present are noteworthy.<sup>61</sup>

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<sup>60</sup>The investigator expresses his indebtedness to the encouragement and assistance of Miss Mary Louise McPartlin. This study could not have been realized without her. Through her he was introduced to professionals in correspondence instruction who also lent their support and assistance in establishing the hypotheses. Because of her own record keeping in the Correspondence Study Division of Loyola University the data for this investigation were made available.

<sup>61</sup>This information is taken from the bulletins of courses published between December, 1923, and the present.

1. Presidents of Loyola University of Chicago:

- 1926	Reverend William H. Agnew, S.J.
1926 - 1934	Reverend Robert M. Kelley, S.J.
1934 - 1943	Reverend Samuel Knox Wilson, S.J.
1943 - 1947	Reverend Joseph M. Egan, S.J.
1947 - 1956	Reverend James T. Hussey, S.J.
1956 - 1971	Reverend James F. Maguire, S.J.
1971 -	Reverend Raymond C. Baumhart, S.J.

2. High School Courses: These were offered by the Correspondence Study Division from 1926 through 1964. No high school diplomas were given through the University, however. The courses offered during these years were:

English - four years of grammar, composition, rhetoric, and literature;

History - Greek and Roman, Mediaeval and Modern, American History and Science, World History;

Government - civics;

Latin - Grammar, composition, Caesar, Cicero, and Virgil's Aeneid (first eight books);

Mathematics - Algebra, Plane and Solid Geometry, Advanced Algebra;

French, German, and Spanish - elementary and intermediate;

Typewriting - beginning and intermediate;

Shorthand - I, II, and III.

3. Fees for Courses: The first published bulletin, December, 1923, states the course fee is \$20 for each major course -- the equivalent of three and one-third semester hours. This fee prevails until September, 1936, when it changes to \$25 for each major course. In 1947 the fee changes to \$30 per course, and every course confers three semester hours of credit. Thereafter, the fees change to \$33 (1951), \$35 (1954), \$45 (1959), \$50 (1960), \$60 (1965), and \$65 (1971).

4. Credit Hours Accepted toward the Degree: In the bulletins for December, 1923 to 1926, it is stated that "Sixty of the required one hundred and twenty credits for a bachelor's degree may be earned in the Home Study Department." A notable lack of specificity becomes evident during subsequent years (1927-1946):

Home-study courses apply only toward a Bachelor's degree. Home study-courses may not be applied toward a Master's degree because not more than one year of resident graduate study is required for this degree and this length of time in residence is demanded for any degree.

Later bulletins explain this restriction is extended to the master's degree in any field." But in 1954 this restriction is modified slightly. While the courses cannot be applied toward a master's degree in any field, they "may be used to satisfy prerequisite requirements in certain graduate divisions." This latter policy is still in effect.

In 1964 the policy of credit applicable toward the undergraduate degree is again made specific:

Loyola will accept fifteen semester hours (five Home Study courses) of correspondence credit toward an undergraduate degree. Students are required to check with the college from which they intend to obtain their degree as to the number of credits earned by the correspondence method their own college will accept.

5. Student Registration: In December, 1927, there is evidence of regulation of enrollment in correspondence courses. In that year it is stated: "An undergraduate student may not pursue a home-study course while in residence at any college or university without the written permission of his Dean." The policy remains in effect, and is only further described in 1947:

A student resident at Loyola University or at any other college or university must have the previous written permission of his dean or other appropriate officer if he wishes to obtain credit in his school for courses taken by correspondence. Home-

study courses are not meant as the regular academic service for resident students. Residents at Loyola who have been permitted to take a correspondence course must maintain a dual registration of such a course both in their own college and in the Home Study Division.

From 1953 to the present, emphasis is placed on the necessity for the dean's approval to insure that the student is taking a "course which will satisfy his degree requirements."

6. Grading: The grading system in the Division, 1923 - 1946, is as follows:

Above Passing

A - 93-100 - Excellent  
 B - 85- 92 - Good  
 C - 77- 84 - Fair  
 D - 70- 76 Passed

Below Passing

E - 60-69 - Conditioned  
 F - 0-69 - Failed  
 I - Incomplete

In 1947 any grade below 70 is considered failing, and is evaluated as F. W is added to indicate class withdrawals, and it is stated that grades of F and W earn no credit. Again, in 1954 a change is introduced. W-Inc is added as another indication of class withdrawal. W indicates withdrawal from a course with no lessons submitted; W-Inc indicates withdrawal after one or more lessons have been submitted to the instructor. This policy is still in effect.

7. Extension of Time: From its beginning the Division made allowance for the fact that the one-year time limit for completion of a correspondence course could be extended. In 1923 a student could secure such an extension for a \$2 fee, if he secured "the permission of the secretary and his instructor." By 1927 this policy was modified. The fee remained the same, but the "arrangements for an extension of time must be made through the Director's office. Any private arrangement between student and instructor will not be recognized." In 1954 the fee becomes

§5, and the policy states, "The Director of the division may extend this time for serious reasons and upon the student's payment of five dollars. No instructor is authorized to grant this extension of time. "The extension was granted for six months. Not until 1961, however, is this stated. Finally, in 1969, the policy reads that "only two extensions are permitted."

8. United States Armed Forces Institute: The Division became affiliated with the United States Armed Forces Institute (USAFI) in 1943. Courses approved by the Institute were available to military personnel for the enrollment fee and the cost of text materials.

The Correspondence Study Division maintained this relationship with USAFI until 1974, when the United States Government discontinued the organization.

9. Hadley School for the Blind: In 1967 the Correspondence Study Division began another affiliation with a significant institution in the metropolitan area. A cooperative arrangement between the Division and the Hadley School for the blind now permits eligible students of college level to earn credit from Loyola University. This arrangement is still operative.

The bulletins of courses do not always clearly indicate the place of the Correspondence Study Division in the academic administration of the University. It is clear, however, that certain changes have taken place. When the known change occurred, or whether there were intermediate ones between those is not always evident. What does remain clear, however, is that the Division was part of the College of Arts and Sciences in its early years, and much later, was part of the University College.



Miss McPartlin states that when she was appointed Director in July, 1952, she was to report directly to the President. Four months later she was told to report directly to the Academic Vice-President.

Richard A. Matre, Ph.D., Vice-President and Dean of Faculties of Loyola University from 1969 to the present, has stated that an interim period existed prior to 1965, when the Division reported to neither the Dean of the College of Arts and Sciences nor the Dean of The University College. As a result of the North Central Association's University visitation in 1965, the Division was located within the academic structure of The University College.

## CHAPTER TWO

### REVIEW OF THE LITERATURE

This chapter presents a survey of the literature in Adult Education and correspondence instruction. It reflects Childs' remark, "We do have some unresolved problems in correspondence instruction."<sup>1</sup> It also echoes Stein's statement: "In all areas we need both speculative analyses and empirical studies."<sup>2</sup>

When he addressed the International Conference on Correspondence Education in 1953 Childs said:

There are many things we need to know. We need to know what specific procedures are sound in syllabus preparation and in correspondence teaching because they actually modify student behavior. This can only be done by comparative studies involving different methods of teaching. We need more studies of achievement of correspondence study pupils. We may know that correspondence study is good, but the lay public and our classroom colleagues are never going to take our unsupported word for it.

We need to know how secondary school pupils who study by correspondence in areas other than mathematics get along in college. We need to know what percentage of our pupils complete courses, why pupils who drop out do so, the points in individual courses where drop-outs are high or low in number. We should know whether the subjects in which the percentage of completions is low do not lend themselves well to correspondence study or whether the courses we offer in these subjects are responsible for the low completion rate.

We need to know more about what constitutes sound procedure in the administration of tests in correspondence study. This is one

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<sup>1</sup>Chapter One, page 14, footnote 36.

<sup>2</sup>Chapter One, page 17, footnote 50.

of our main administrative problems. Perhaps we make too much of it. Would open book examinations do as well?

This list could be indefinitely continued. We have very much to learn about correspondence study and we are not going to make our maximum contribution until we do have some of the answers.<sup>3</sup>

It is evident that Childs is asking for quality investigation in correspondence instruction. And investigation of the literature of adult education and correspondence instruction reveals an abundance of studies. A useful division of these reports into four broad categories is appropriate:

1. Evaluative statements and general studies;
2. Surveys and profiles;
3. Comparative studies of instructional methods;
4. Studies of specific characteristics.

These categories are not mutually exclusive. In this investigation they are intended to serve as organizers of representative reports, and to put the studies in perspective.

### 1. Evaluative Statements and General Studies

Adult education and university extension have a mission "to help lift the individual and collective life of people to higher planes."<sup>4</sup> They wrote the statements in 1965, but Shannon and Schoenfeld were echoing the

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<sup>3</sup>Gayle B. Childs, Fourth International Conference on Correspondence Education, p. 104.

<sup>4</sup>T.J. Shannon and Clarence A. Schoenfeld, "Azimuths for University Adult Education," Adult Leadership, Volume 14, Number (November, 1965) p. 153.

thoughts of Clyde Votaw. Fifty years earlier, in 1915, he addressed the first conference of the National University Extension Association in Madison, Wisconsin:

The most important thing to say about university extension is that it should be directed and infused by Idealism. We may think of our Idealism as Moral Idealism, or Civic Idealism, or Social Idealism. It seeks out what is highest and best for humanity, it aspires to the finer achievements of life, it views material things and vocational pursuits as useful in proportion as they serve to promote the virtues of character and the deeds of goodness. The goal of our highest thought and effort in university extension will be to work toward that perfected humanity in which the well-being of each individual in organic relation with all others will be achieved.<sup>5</sup>

Whatever its form, idealism was Bergevin's (1963) lodestar. He itemized several means required "to grow and develop into the kinds of persons we are capable of becoming." Cultural, spiritual, and vocational development are "musts" in adult education. He states:

Adult education should develop a mature rationality in our lives and through us in the institutions which play a vital part in our learning to live together.

Basically adult education like all education has two jobs to do:

1. To meet personal and social needs.
2. To reveal new ideas, to encourage creative approaches, and to broaden our views by exploring new and unfamiliar areas. Sometimes this second task is incorporated in the first one.<sup>6</sup>

There are challenges to idealism, however. It is to these that Crabtree addresses the adult educator:

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<sup>5</sup>Ibid., p. 179.

<sup>6</sup>P. Bergevin, "Means and Ends for Adult Education," Adult Leadership, Volume 12, Number 5 (November, 1963) pp. 149, 150.

The first challenge is very simple -- and very fundamental. It is the task of 'Selling' the concept of adult, or continuing, education to the American public. . . .

Secondly, we are faced with a challenge to keep this program for disadvantaged adults in the hands of professional educators. . . .

A third challenge facing adult educators in these times is the challenge to improve the quality of our product. . . .

Finally, a fourth challenge to adult educators in these times is the challenge of faith in Adult Education. This may be the most serious of all in the long perspective: The depth of our own conviction in the need for Adult Education in this country.<sup>7</sup>

Other general statements about adult education, giving it another name, continuing education, view it from an historical perspective. Durnhall (1971) describes how population shifts from farms to cities have changed the face of university extension education. The system must "discard its existing philosophy, programs and structure in face of a 'new-breed' which places continuing education as the central core from which radiate programs, procedures and structures."<sup>8</sup> Inasmuch as extension education was a predominant feature of a university in a largely rural setting, it must now change with the shift in its clientele. And thus -- continuing education.

[Continuing education] is not education which is primarily catching up or remedying the deficiencies of basic education. . . . It is not an activity which terminates at the

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<sup>7</sup>Arthur P. Crabtree, "Challenges to the Adult Educator," Adult Leadership, Volume 12, Number 5 (November, 1963) pp. 149, 150.

<sup>8</sup>E. J. Durnhall, "Extension vs. Continuing Education," Adult Leadership, Volume 19, Number 10 (April, 1971) p. 322.

conclusion of a particular course or series of courses. . . .

Continuing education rejects the concept that life is divided into two parts, one of preparation and one of action. It is rather a way of life and of being aware of the world about us. It is a process of learning which must meet the needs of each successive phase of life. Age limits are meaningless. Failure and success are relative.<sup>9</sup>

In contrast to the shift seen by Durnhall is Dickerman's observation. After noting the advantages and disadvantages in the use of the terms, adult education and continuing education, he concludes that the latter term more accurately reflects conditions:

We are making some progress in persuading people to go on learning but face many difficult and some apparently insoluble problems. This will not daunt adult educators. . . . They have learned from experience not to expect too much but to keep working like the devil to get it. To this one, the most hopeful note in this unfinished symphony is the emphasis on getting people to see life-long learning as normal. And I must confess that the term 'continuing education' seems to imply this somewhat more clearly than the term 'adult education.'<sup>10</sup>

It is as though Robinson were a bridge in time for the thoughts of Dickerman (1964) and Durnhall (1971). In 1966 he wrote:

A century ago, when the United States was 85% rural, the nation decided to concentrate its massive resources on re-shaping rural America. Seaman Knapp described the Smith-Lever Act of 1914, which established Cooperative Extension, as "a system of rural education for boys and adults by which a readjustment of country life can be affected and placed upon a higher plane of profit, comfort, culture, influence and power." By changing only a few words this would seem an appropriate credo for the establishment of an all-university extension service for today's urban needs. "A system of urban education for children and adults by

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<sup>9</sup>Ibid. This investigator reflects here upon Correspondence Instruction's studies of the drop-out, the non-completer. Durnhall's statement suggests why such studies must regard these students in a non-pejorative framework.

<sup>10</sup>Watson Dickerman, "What Is This Continuing Education?" Adult Education, Volume 15, Number 1 (Autumn, 1964), p. 7.

which a readjustment of urban life can be effected and placed upon a higher plane of profit, comfort, culture, influence and power." The university can become the very center, the focus of leadership for such programming.<sup>11</sup>

Any idealism Votaw could espouse, however, is lacking realization without the available means with which to achieve the desired goals. In a general way Knox addressed himself to this problem when he spoke of the mission of the Commission on Research of the Adult Education Association: to encourage competent research, and to encourage adult educators to effectively use research results.<sup>12</sup>

The mortal character of idealism is forcefully expressed by Cyril O. Houle who reminds the adult educator that his subject is not a large child. He is an autonomous learner. And unlike other students in higher education, he is likely to be in more control of his own destiny:

So far, in our research into adult education we have focused almost entirely on particular institutions and on the participation of adults in them. We have let our minds be bound about by the confines of the evening college, the evening school, the library, the museum, the community center, or the extension service, forgetting that adults move into and out of such institutions, remaining the only enduring element in a constant shift and flow of participation. Or we have asked what kinds of people use what kinds of facilities and thereby focused on a single act of choice rather than the continuing flow of acts of choice which makes up a coherent pattern of learning in a lifetime. Or we have asked why people come to a particular class and

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<sup>11</sup>Russell D. Robinson, "University Roles in Adult Education," Adult Leadership, Volume 15, Number 2 (June, 1966) pp. 36, 50.

<sup>12</sup>Chapter one, page 13, footnote 26.

not how that motivation relates to some deeper pattern of orientation.<sup>13</sup>

Houle's allusion to demographic studies and their misuse is a reminder of the observation of Thiede and Draper.<sup>14</sup> Is the quantity of such studies inversely proportional to their value? Or are the two variables related to yet a third, perhaps unobtrusive common factor -- misuse? Knox has called this unobtrusive factor the utilization of research findings in more effective practice.<sup>15</sup>

A final example of a general statement in professional literature of adult education is Baker's (1965) statement:

The teaching-learning environment should be characterized by creativity and individuality not only in evaluation but in the entire teaching process. Until further research evidence is presented, regimentation and standardization might better be replaced by a philosophy of education emphasizing flexibility. Not the least of the conclusions is to recognize the role of the adult learner as an active planner and participator with the

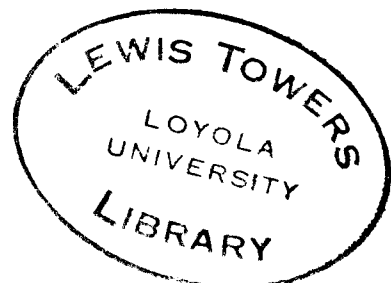
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<sup>13</sup>Cyril O. Houle, "Ends and Means in Adult Education Research," *Adult Education*, Volume 12, Number 4, (Summer, 1962) p. 212.

As if to provide a practical example of his statement, Houle, in a well known article, "Who Stays, and Why?" (*Adult Education*, Volume 14, Number 4, Summer, 1964, pages 225-233) writes: "In the past decade, a great deal of serious and productive research has been devoted to the double question: Who comes to adult educational activities--and why? It is now time to devote at least some attention to an equally important pair of questions: Who stays--and why?" He continues: "Somehow, it does not occur to [adults] that they may never have learned how to learn or that the disciplined ability to study which they possessed at twenty has been eroded by years of busyness at tasks which, however crucial, did not require the dedicated attention demanded by any education which is worthwhile." (pp. 228, 233).

<sup>14</sup>Chapter one, page 13, footnote 29.

<sup>15</sup>Chapter one, page 13, footnote 26.





opportunity and responsibility for self-evaluation of his own progress along the pathway of continuing education.<sup>16</sup>

Correspondence Instruction contains similar professional literature. What is most noteworthy of much of this literature is the evaluation given by MacKenzie at the Eighth International Conference of the International Council on Correspondence Education (Paris, 1969). He reported on the background work of the staff for the Cooperative Educational Research Project (CERP). This work culminated in Correspondence Instruction in the United States (1968),<sup>17</sup> which is best categorized in the first of the four divisions of this chapter. Speaking of the trends in home study literature, MacKenzie said:

With very few publications escaping our attention, the CERP staff abstracted the literature of home study which appeared between 1915 and 1965. The dominant theme of these articles, pamphlets, and conference reports was the advantage-disadvantage syndrome. It would be pure conjecture, but one might wonder if the repetitious strength-and-weakness dichotomy ever conveyed the role of scholarship in this field.<sup>18</sup>

This investigator takes MacKenzie's observation further. If correspondence instruction has seen itself in the framework of this syndrome or dichotomy, is it not almost connatural (like the opposite side of the coin) that self-study would remain in the background of

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<sup>16</sup>James F. Baker, "Evaluating Adult Achievement: A Plea for the Demise of the 'Number System' in Continuing Education," Journal of Education, Volume 147, Number 3 (1965), p. 60.

<sup>17</sup>Ossian MacKenzie and Edward L. Christensen, and Paul H. Rigby, Correspondence Instruction in the United States (New York: McGraw-Hill Book Company) 1968. Childs has remarked of this work: "I believe this report should be used to stimulate discussion regarding correspondence study -- what it is, its role, and how it should function." (The Changing World of Correspondence Study, p. 241).

<sup>18</sup>Ossian MacKenzie, "Status and Trends of Correspondence Instruction in the United States," The Changing World of Correspondence Instruction, p. 369.

consciousness? So long as the method feels the necessity to prove itself in this syndrome or dichotomy, it is inevitable that comparative studies of the effectiveness of differing methods is the answer to the problem. Childs' first law of impact of method on the human organism is simply a restatement of why studies of the advantages and disadvantages, the strengths and weaknesses of a system, must cede to other kinds of self-study -- because "The brain doesn't give a damn."<sup>19</sup>

Bittner and Mallory (1933) contributed an early, classic general study in their work, University Teaching by Mail.<sup>20</sup> Their book examines correspondence instruction in member institutions of the National University Extension Association. It demonstrates the origin and growth of correspondence teaching, its administrative problems and policies, standards and practices, and principles. Not totally unlike this early study is the work by Mackenzie, Christensen, and Rigby, Correspondence Instruction in the United States.<sup>21</sup>

Does home study function? Kingsbury (1930) addressed himself to this question in speaking to the National University Extension Association:

Since 1922 it has been my privilege to organize (and several times to reorganize) and teach four home study courses in psychology at the University of Chicago. It has created a conviction, stronger each year, that some, at least, of the home study course can be made to function as effectively and valuably as do residence courses.<sup>22</sup>

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<sup>19</sup>Chapter One, page 10, footnote 54.

<sup>20</sup>Walton S. Bittner, and Hervey F. Mallory, University Teaching by Mail (New York: The Macmillan Company) 1933.

<sup>21</sup>Page 34, footnote 17.

<sup>22</sup>F. H. Kingsbury, "Does University Home Study Function?" Proceedings, National University Extension Association, XIII (Bloomington, Indiana: University of Indiana Press) 1930, p. 125.

Two decades later Kempfer (1958), describing the typical student of home study, or adult education, demonstrated how "Correspondence Courses Serve Individual Needs."<sup>23</sup> Two years later still, Allen (1960) was asking publicly, "Must Home Study Be a Step-child of Education?" Resident study is not the only real way to learn. But, says Allen, such an attitude

has helped make the high school diploma and college degree more important in the minds of many than knowledge and ability -- it has taken the identity of a sort of 'union card' for job applications and advancement. . . .

This adult talent can be developed to the benefit of both the individual and the nation -- but only if we recognize the fact that knowledge depends on the individual's desire and capacity to learn, not where or how he learns. . . .

Learning is not limited to the classroom -- as wonderful as it can be; nor is it limited to the youngster as important as he is to the nation's future. Learning can take place everywhere geographically and only one place physically -- within the individual, no matter his age. It is still a matter of initiative, desire, intelligence and self-discipline.<sup>24</sup>

One year after he wrote those remarks, Stein (1961) was asking and answering his own question: What 'must be' for Allen, is for Stein a matter of coming to grips with the facts that answer the question, "Is Home Study a Stepchild?"<sup>25</sup> Summarily he states that if this is so, it is largely "our own fault." Correspondence instruction must come to grips with its own self-created problem, if and where it exists.

For millions of correspondence students, writes Benjamin Pearse, the

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<sup>23</sup>Homer Kempfer, "Correspondence Courses Serve Individual Needs," Adult Education, Volume 9, Number 1 (Autumn, 1958), pp. 41-42.

<sup>24</sup>Robert Allen, "Must Home Study Be a Stepchild of Education?" pp. 15, 18, 21.

<sup>25</sup>Leonard S. Stein, "Is Home Study a Stepchild?" pp. 29-40.

good steward is the mailman. The author, relating the structure of the National Home Study Council, treats of the advantages and disadvantages of the method.<sup>26</sup> Similarly, Durfee and Brophy (1962) write of the advantages of home study -- the student's time is his own; a variety of courses is available; courses appeal to the mature student; low cost. But the method has hazards -- the demand on individual motivation; the difficulty of recognition from academic institutions.<sup>27</sup>

The diversity of attitudes toward the status of correspondence instruction is also evident in the literature in this category. Three years after Stein was chastising leaders in the field, the Deputy Commissioner of the United States Office of Education was stating that "correspondence education has come of age." He underscored his remarks and predicted with emphasis:

But one essential reason for your increasing success is your own voluntary creation and acceptance of high standards. . . . Correspondence instruction. . . will find increasing acceptance and use. . . in our total educational enterprise to a degree not now contemplated.<sup>28</sup>

In 1970, Nation's Schools printed: "After a long probation, correspondence instruction has managed to peel off its 'second class' label and emerge as a significant contributor to the American education scene."<sup>29</sup>

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<sup>26</sup>Benjamin H. Pearse, "Postman Is the Proctor," American Education, Volume 3, Number 2 (February, 1967) pp. 10-12.

<sup>27</sup>Richard A. Durfee and Alfred L. Brophy, "Role of Home Study in Educational Planning," Vocational Guidance Quarterly, Volume 10, Number 4 (Summer, 1962) pp. 229-234.

<sup>28</sup>Wayne O. Reed, "Correspondence Education: The Prices of Success," Home Study Review, Volume 5, Number 2 (Summer, 1964) pp. 4-13.

<sup>29</sup>"Correspondence Courses Make Diverse Comeback," Nation's Schools, Volume 85, Number 6 (June, 1970) pp. 96, 98.

## 2. Surveys and Profiles

After reviewing a large number of studies of the participants in adult education, Edmund deS. Brunner, in An Overview of Adult Education Research, stated:

Those who have less than an eighth grade education, over 55 years of age, laborers and service workers, and those with low economic status and subsistence level of living are likely to participate less in adult education.<sup>30</sup>

Similar conclusions, more limited in their scope to the locale of the institution and its clientele, are not uncommon in this category of the literature. For this study, however, the results of a particular investigation are not important. An individual report will have findings closely allied to the academic and geographic setting of the study. And there is no doubt that a good report of this type shares in one quality of sound research, replication. What is more significant, though, is that the literature reflects the professionals' efforts to describe their clientele. The composite of many such reports is a profile indicative of a matter of importance to persons involved in reaching the potential learner through adult and correspondence education.

Montross (1959) reported a description of students in special classes at the University of Wisconsin. He tested the hypothesis that university extension encompasses homogeneous groups within special programs. These classes were divided into seven categories:

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<sup>30</sup>Edmund deS. Brunner, An Overview of Adult Education Research, Adult Education Association of the United States, 1959, p. 98.

1. Liberal education classes,
2. Hobby or how-to classes,
3. Nonvocational classes for quasi-public service groups,
4. Nonvocational classes designed to give an indirect monetary gain,
5. Classes for the professional groups,
6. Classes designed for business and industry,
7. Classes designed for workers.<sup>31</sup>

He concluded with two general statements: (1) There is homogeneity in certain characteristics in the categories; (2) Students with such homogeneity favor a specific adult education agency.

Effective program planning for adults in programs offered at the University of British Columbia was the motivation for the study by Lindenberger and Verner (1960). Their work is reported as an effort to share with other professionals a technique of general interest. The authors are candid in their admission that, "Naturally, the specific findings concerning the characteristics of participants in extension classes at the University of British Columbia are of local interest only."<sup>32</sup> Their profile study, employing established census tracts and socio-economic profiles contained in such information, helps to identify geographical areas of their clientele. As the authors state, the exploratory study "is not complete in itself but it does indicate a line of research that promises to produce useful data for adult education program planning."<sup>33</sup>

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<sup>31</sup>Harold W. Montross, "University Extension Students," Adult Education, Volume 10, Number 1 (Autumn, 1959) pp. 53-4, 56.

<sup>32</sup>Alice Lindenberger and Verner Coolie, "A Technique for Analysing Extension Course Participants," Adult Education, Volume 11, Number 1 (Autumn, 1960), p. 30.

<sup>33</sup>Ibid., p. 33.

In the same year Farnum (1960) also wrote a report, "A Survey of Students in University Extension." The work is another example of sharing a technique and specific findings. As the author states, the original study was conducted,

to gain accurate information concerning the characteristics of the students and their educational goals so that future programs of the Extension Division of the university [Rhode Island] might be better adapted to existing educational needs in the state. . . .

It is felt that with further research of this type university extension divisions throughout the country will be in a better position to adjust their programs to the needs of the particular communities which they serve.<sup>34</sup>

Carter, Kerr, and York (1962) conducted a similar study at the University of Illinois. The authors collected information about some characteristics and educational objectives of extramural students of the university, to assist "in planning future programs by helping to adjust course offerings to the needs, interests, and attainments of extramural students." Again, the specific results of this study are not of primary importance. However, they do serve to exemplify the general trend of information from this kind of study:

1. The mean age of extramural graduate students was 36.0; undergraduate students, 32.0; non-credit students, 37.3; of all students, 35.3;
2. The mean number of years of education for graduate extramural students was 16.4 years, and the modal value, 16 years; for undergraduate students, 13.5 and 12 years; non-credit students, 13.0 and 12 years.<sup>35</sup>

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<sup>34</sup>Hollis B. Farnum, "Survey of Students in University Extension," Adult Education, Volume 11, Number 1 (Autumn, 1960) pp. 23, 29.

<sup>35</sup>Gerald C. Carter, William E. Kerr, and Scott B. York, "Characteristics of Extramural Students," Adult Education, Volume 12, Number 4 (Summer, 1962) pp. 223, 224.

Lacognata (1964) conducted a more extensive survey of faculty and student role expectations in university extension. Using a .05 level of significance in the application of the t-test of differences between mean responses, the investigator studied role consensus and role convergence of students and faculty, with respect to perceived and expected behavior. While the author does achieve the purpose of his study, "to ascertain the nature and degrees of agreement and disagreement in academic role expectations of extension faculty and students,"<sup>36</sup> he adds a forthright reminder about the limitations of the study:

One final note on future research. Like other social science research analyses, this study was characterized by several limitations. Without elaboration upon them, we cite these as being the most obvious:

1) The focus of analysis wherein we secured the normative aspects of role behavior. This does not tell us how the respondents actually do behave (i.e., role-enactment.)

2) The generalization of the results which are valid only to other extension institutions approximating the universe in which this study was carried out.

3) The omission of other crucial focal points for purposes of comparison. For example, the perceptions and expectations of departmental heads and extension administrators in addition to the faculty and students.

Future research along these lines should be of immense interest and value.<sup>37</sup>

Houle<sup>38</sup> noted that studies abound on the client and why he comes.

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<sup>36</sup>A.A. Lacognata, "University Extension Faculty and Student Role Expectations: An Empirical Analysis," Journal of Experimental Education, Volume 33, Number 2 (Winter, 1964) p. 112. This study was partially presented as "Academic Role Expectations of Extension Students," Adult Education, Volume 14, Number 2 (Winter, 1964), pp. 99-103.

<sup>37</sup>Ibid., pp. 112-113.

<sup>38</sup>Page 37, footnote 13.



He suggested that some emphasis should be placed on who stays, and why. It is reminiscent of a theme in variations that Booth (1961) presents a profile of the non-participant in adult education. He does not explore the question, Why. Still, his study is an example of a thrust to present a portrait of the actual and potential enrollee in adult education:

This study represents an attempt to derive a loose but functional demographic profile of the non-participant for purposes of identification. Identity may serve to aid the researcher who may be contemplating studies of the non-participant and the administrator who is seeking ways of reaching new clientele.<sup>39</sup>

The conclusions of Booth's study support the earlier observation of Brunner.<sup>40</sup> Booth states:

1. The non-participant is most likely to appear in that portion of the population which is 45 years of age or over.

2. The non-participant is most likely to appear in that portion of the population which has less than a high school education.

3. The non-participant is most likely to appear in that portion of the population which is either in the lower echelons of the labor force or not in the labor force.<sup>41</sup>

Thiede and Draper do not refer to correspondence instruction in their report on the quality and quantity of research in adult education.

It is not excluded from their remarks, however:

By far the greater number of studies reported are descriptive, describing institutional programs, clientele,

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<sup>39</sup>Alan Booth, "Demographic Consideration of Non-participation," Adult Education, Volume 11, Number 4 (Summer, 1961), p. 223.

<sup>40</sup>page 43, footnote 30.

<sup>41</sup>Booth, *Ibid.*, pp. 223-224.

clientele, teachers and leaders, methods. This reflects the complexity and variability of the field and the present concern with adequate description of the phenomenon before more sophisticated research designs are employed to study particular aspects of it. . . . The point has now been reached where the general usefulness to the field can be questioned for studies whose purpose is to describe clientele, teachers and leaders, and institutional programs. . . . The smaller descriptive studies are for the most part not capable of generalizations to other situations and therefore of use only to the particular institution, program, or community being looked at. In other words, the kinds of institutional studies which ought to be carried on at all times to facilitate program development are of limited if any national value.<sup>42</sup>

In emphasizing burgeoning enrollments in correspondence instruction, Kempfer (1958) stated that "enrollment in such courses will probably double in a decade."<sup>43</sup> Whether his prophecy was realized, the author nonetheless saw at the time a necessity to have a profile of the "typical" home study student. No doubt he had in mind that the salesman should know his territory:

Home study is primarily adult education. The typical student is 26.5 years old, with women five years younger than men. Half the men are between 22 and 34 years. Half the women are between 18 and 22.

The majority of home study students are high school graduates. Over 13 per cent have completed one or more years of college. College graduates increasingly enroll in home study to add the knowledge and skills of another profession to their present competence.

Men students have had more education than women. Two per cent of all students have had less than eight years of

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<sup>42</sup>W. Thiede and J. Draper, "Research and Investigation in Adult Education," Adult Education, Volume 13, Number 4 (Summer, 1963) p. 196.

<sup>43</sup>Homer Kempfer, "Correspondence Courses Serve Individual Needs," Adult Education, Volume 9, Number 1 (Autumn, 1958) p. 41.

schooling. . . . Three fourths of all enrollments are in vocational courses.<sup>44</sup>

Eight years later Hartsell and Farrar (1966) reported a profile study of "Mr. Typical Home Study Student," and stated that "perhaps the most significant face uncovered by our brief study is that our Mr. Typical Home Study Student is in no hurry to complete his course."<sup>45</sup> He is 28 years old, has a grade average of 2.7, and compares favorably with his peers in residence.

Spencer (1964-1965) drew a profile of a special class of correspondence student, the course completer. His conclusions are also representative of the demographic study:

91.7% of all college-credit completions were in the three credit courses. . . . Men constituted 72.8% of all completions in the three-credit courses. . . . Women completing three-credit courses had a slightly higher educational level, were slightly older, took less time, and earned higher grades than men. . . . Optimum time for completion of three-credit courses was 8.9 months for men and 8.5 for women with one time extension of 6 months.<sup>46</sup>

Clark (1966) also presented a demographic study of students in the International Correspondence School in 1965. What is noteworthy about his work is his final comment:

What conclusions can be drawn from our study of the private home study student profile? Perhaps we can conclude that a standard description is futile, or at least of limited value.

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<sup>44</sup>Ibid., p. 41.

<sup>45</sup>Charles W. Hartsell and B.F. Farrar, "How Well Do You Know Your Home Study Student?" Adult Leadership, Volume 15, Number 1 (May, 1966) pp. 9, 31.

<sup>46</sup>Oscar F. Spencer, "Factors Associated with Persons Who Complete Correspondence Courses," Home Study Review, Volume 5, Number 4 (Winter, 1964-1965) p. 15.

It seems that the typical student is representative in only the broadest view of the field, and then he is typical only by a very small margin. . . .

Perhaps the profile of the typical private home study student is not nearly so useful as the data from which the profile is drawn. The field of private home study is so broad, complex and varied no one picture can be truly representative.<sup>47</sup>

What is most evident about the demographic studies in adult education and correspondence instruction can be understood from Clark's comments. No single profile of the student is as useful as the data upon which it is based. The profile is useful in a very limited milieu, for a specific institution. It is therefore valuable. The value of the study to the general educational field, however, is found in the demographic design, the manner in which the data have been organized and analyzed. Standard descriptions are not futile. Though they are of limited value.

### 3. Comparative Studies of Instructional Methods

Comparative studies of achievement and ability are a perennial feature of adult education. Bibliographical research reveals that throughout the years, even early in this century, journal reports discuss the comparative effectiveness of extension and correspondence activities with other modes of learning.

As early as 1929, R. R. Price reported to the National University Extension Association on the comparative achievement of resident and extension students. He declared that extension students were comparable

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<sup>47</sup>Ronald D. Clark, "Student profile of a Large Private Correspondence School," Home Study Review, Volume 7, Number 4 (Winter, 1966) pp. 15-16.

or slightly superior to resident students in mental ability and scholastic achievement. He did clarify, however, that the differences lacked statistical significance.<sup>48</sup>

Four years later, Sorenson (1933) published his findings and declared that the best extension students are very superior to students of other college groups; that extension students generally achieve more in proportion to their measured aptitudes than do resident students; that extension students have an intellectual vitality seldom found in students attending classes in the more traditional manner, whose ambiance is academic terms and scheduled lectures.<sup>49</sup>

Palmer and Verner (1959) reported a similar investigation of three instructional methods. Their work focused upon the instructional techniques applicable to adult education: lecture, discussion, and lecture-discussion. They stated their null hypothesis:

There will be no statistically significant differences at the .05 level of confidence in the end-of-course achievement by groups that underwent three different instructional techniques.<sup>50</sup>

Using pre- and post-tests to measure achievement, the authors reported no significant differences among the three groups on the final test. But in reporting the results of each group on the pre- and post-test measurements they state:

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<sup>48</sup>R.R. Price, "The Comparative Scholastic Achievements of Residence and Extension Students," Proceedings of the National University Extension Association (Twelfth Annual Convention) Bloomington: Bloomington, Indiana University Press) 1929, pp. 54-64.

<sup>49</sup>Herbert Sorenson, "Abilities of Extension Students," Proceedings of the National University Extension Association, 1933. pp. 35-40.

<sup>50</sup>Robert E. Palmer and Coolie Verner, "Comparison of Three Instruction Techniques," Adult Education, Volume 9, Number 4 (Summer, 1959) p. 232.

These data. . . indicate that the original hypothesis of the study is untenable since the lecture technique appears to have produced more achievement than did the discussion or the lecture-discussion techniques.<sup>51</sup>

Zahn (1962) reported the findings of another study on comparative ability of extension and resident students, and concluded:

From the evidence we can conclude that extension students are higher in mental ability or "quality" than some groups of campus students and do not differ in mental ability from other campus students.<sup>52</sup>

Costin and Johnston (1962) combined the questions of ability and achievement in a single study whose specific purposes were:

(a) to compare the achievement of students taking a one-semester introductory psychology course at Chanute Air Force Base with the achievement of students taking the same course on the campus of the University of Illinois, and,

(b) to compare relationships between scholastic ability and course achievement of the two groups.<sup>53</sup>

Their conclusions have a thematic quality reminiscent of similar studies:

All in all, the results of this study indicate that it is reasonable to expect extension students taking an introductory psychology course to achieve as well as campus students taking the same course. Those differences in achievement which did favor the campus students were small enough, in the opinion of the investigators, to justify such a conclusion. . . .

Another highly suggestive finding was the fact that academic ability was more closely and consistently related to the achievement of campus students than to the achievement of extension students. This means, of course, that there were more factors

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<sup>51</sup>Ibid., p. 235.

<sup>52</sup>Jane Zahn, "Comparative Ability of Extension and Resident Students," Adult Education, Volume 12, Number 2 (Winter, 1962) p. 105.

<sup>53</sup>Frank Costin and Robert L. Johnston, "A Study of Achievement in and Introductory Psychology Course," Adult Education, Volume 12, Number 2 (Winter, 1962), p. 121.

in addition to ability which influenced the course performance of the extension students, as compared to the campus students. While the data of this study do not show what these factors were, it may well be that motivational characteristics were chiefly responsible. . . .

The results of the present study have immediate validity only for the particular course, instructor, and populations which were involved. They do furnish, however, valuable clues to the kinds of evidence which it is important to obtain in order to develop rational and adequate programs of adult education on the undergraduate level.<sup>54</sup>

Though their study relates to the comparative characteristics of extension students enrolling in two methods of class presentation within a single university extension department (the study is therefore similar to the work of Palmer and Verner) the investigation of Buttedahl and Verner (1965) tested the hypothesis:

There is no significant difference at the .01 level of confidence in certain specific socio-economic characteristics between those enrolled in classes and those participating in discussion groups with similar content conducted by a single university extension department.

Their conclusions:

The original null hypothesis investigated by this study is rejected for there are statistically significant differences in terms of the characteristics examined between those who enroll in extension lecture classes and discussion groups offered by a single institution in both similar and identical content areas. . . . The nature of the differences is suggested by existing research, but the causative factors involved are not clear.<sup>55</sup>

The capabilities of correspondence instruction have been demonstrated with similar research technique. In 1928 Robert Crump presented as a conclusion of his thesis that student achievement in resident classes,

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<sup>54</sup>Ibid., pp. 124, 126.

<sup>55</sup>K. Buttedahl and Coolie Verner, "Characteristics of Participants in Two Methods of Adult Education," *Adult Education*, Volume 15, Number 2, (Winter, 1965) pp. 68, 73.

extension classes, and correspondence classes was comparable, one method of instruction giving results as good as another.<sup>56</sup> Forty-five years before his own formulation of "Childs' first law of impact of method on the human organism,"<sup>57</sup> a similar observation was being made -- that methods just don't make a difference! And reporting in the Journal of Higher Education, Dysinger and Bridgman (1957) state that the achievement performance of correspondence study students in a psychology course did not differ from the performance of a campus group.<sup>58</sup>

What is most evident from the studies this investigator has reviewed for the third category of research literature, is that

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<sup>56</sup>Robert E. Crump, "Correspondence and Class Extension Work in Oklahoma," Doctoral Thesis, Teachers College, Columbia University, 1928.

<sup>57</sup>Chapter One, page 18, footnote 54.

<sup>58</sup>Dale W. Dysinger and C.S. Bridgman, "Performance of Correspondence Study Students," Journal of Higher Education Volume 28, Number 7 (October, 1957) p. 388. The investigators' caution about their own study has a degree of relevance for similar investigations:

It must be remembered that the groups differed not only in the way the material was presented, but also in age and reasons for taking the course. There was no control of the basic scholastic ability levels in the two groups. In addition, many who enroll for correspondence study do not complete the work and the final examination. Thus, there is a selective effect on the type of student who completed the course by correspondence, although experience indicates that many factors in addition to ability contribute to this selection.

Because of the uncontrolled variables, it is possible to conclude only that the achievement of the group completing the course by correspondence was equivalent to that of regular students. This is an interesting and valuable find in its own right, but it leaves open the basic question of the relative effectiveness of the two methods of instruction, although it seems fair to suppose that the two methods cannot differ greatly in this regard, in view of the results. (p. 388)



correspondence instruction as a general method<sup>59</sup> is quite capable of "holding its own" alongside other instructional methods. What Price (1929) concluded about ability and achievement<sup>60</sup> has been repeated "many a time and oft" in the literature.

Newman and Highland demonstrated that students with only printed materials and no instructor assistance learned as much as three other groups who studied (a) with particularly competent instructors, (b) with workbooks and tapes, and (c) with slides and tapes.<sup>61</sup> Crissy (1956) showed that correspondence trained officers, both on- and off-job, made higher scores on problems of application and fact, than did officers with job experience (that was part of course content) but without correspondence instruction.<sup>62</sup> And Farnum (1957) showed that extension students were significantly superior to resident students in the quality of academic aptitude reflected in measures of vocabulary and levels of reading comprehension.<sup>63</sup>

Peters (1971) challenges the structured thinking one may unwittingly

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<sup>59</sup>Correspondence Instruction, as a general method, is not related to a particular subject or subject field. It is a self-evident fact that some subjects and areas are more easily taught and learned by particular methods.

<sup>60</sup>Page 46, footnote 48.

<sup>61</sup>S.E. Newman and R.W. Highland, "The Effectiveness of Four Instructional Methods at Different Stages of a Course," (Lackland Air Force Base: Air Force Personnel and Training Research Center, June, 1956.

<sup>62</sup>W.J.E. Crissy, "An Evaluation of the Effectiveness of a Naval Officer Correspondence Course," Final Report, Office of Naval Research Contract Nonr-1625 (00). (Cambridge: Educational Research Corporation) December, 1956.

<sup>63</sup>Hollis B. Farnum, "A Comparison of the Academic Aptitude of University Extension Degree Students and Campus Students," Journal of Applied Psychology, Volume 41, Number (1957) pp. 63-65.

adopt in conducting research on the comparative effectiveness of teaching and learning methods. The research technique may be sound, but a fundamental assumption may remain unquestioned:

In the United States many comparative experimental studies were conducted in order to test the efficiency of correspondence instruction. Usually one group of students was taught by correspondence and the control group of the same size by a teacher, the result being that both methods were about equally efficient. Now, if these researchers had reflected about the structural differences between oral and written instruction, between classroom and correspondence instruction, they would never have started on such experiments. They judged an assessed correspondence instruction in terms of oral instruction and missed the point, although they had been very accurate, especially in the statistical treatment of data. If these experiments had been guided by a sound theory, the researchers would have seen that the real potential of correspondence instruction can never be shown in experiments of this kind.<sup>64</sup>

Have we again come upon the theme in variations? Is Childs' first law of impact of method on the human organism simply a restatement of why comparative studies must cede to other kinds of self-study -- because "The brain doesn't give a damn"?<sup>65</sup>

This study makes no claim to investigate correspondence instruction in the depths suggested by Peters' discerning remark. It is so simple (yet so profound) to realize that the effectiveness of correspondence instruction should not be judged on the basis of criteria of oral instruction! While words do signify concepts, those words are capable of differing embodiments -- sometimes written, sometimes oral. This investigation

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<sup>64</sup>Otto Peters, "Theoretical Aspects of Correspondence Instruction," The Changing World of Correspondence Study, Ossian MacKenzie and Edward L. Christensen (editors) p. 224.

<sup>65</sup>Page 35, footnote 19.

accepts the fact of the written word as a means of transmission of ideas, to achieve the alteration in human behavior called learning. It does not explore the nature of the written word as a medium for learning. The study does attempt to explore and describe certain three-dimensional arrangements associated with the written word in the form of Correspondence Instruction. Exploring the nature of the written word is the cooperative responsibility of others -- the educational psychologist, the philosopher, the psychologist, the sociologist. It is the task of another investigation.

#### 4. Studies of Specific Characteristics

It has been stated that the four categories of professional literature presented in this study are useful, but not mutually exclusive. This fact is particularly evident in the presentation of literature of the second and fourth categories. Booth's work, "Demographic Consideration of Non-participation,"<sup>66</sup> for example, is a survey. But it is a survey of a particular kind of student, the non-participant. Spencer<sup>67</sup> also conducted a demographic study of a particular person, the course-completer in correspondence instruction.

The fourth category of professional literature does point out one fact, that there are certain characteristics of the student in adult education and correspondence instruction that have been of most concern to the professionals.

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<sup>66</sup>Page 42, footnote 39.

<sup>67</sup>Page 44, footnote 46.

Zahn and Phillips (1961) indicated in a prefatory remark of their study, "There have been few studies on drop-outs in adult education generally and fewer yet on drop-outs in university adult education."<sup>68</sup> They constructed a rationale for their investigation based upon academic ability and anxiety level. At the .001 level of significance for chi-square, they concluded that data supported the first hypothesis:

Students who fail to complete courses have lower academic ability as measured by a group, written test of academic ability than those who complete.

Statistical evidence did not support rejection of the second hypothesis:

We did not have sufficient evidence to reject the hypothesis that there was no difference between those who dropped out and those who did not on manifest anxiety.<sup>69</sup>

As if to set the stage for future research into the same phenomenon, the authors define the limitations of their investigation:

There is also the possibility that as the group tested were students in introductory psychology in Berkeley and San Francisco these results would not hold for:

1. Students in other academic fields of study,
2. Students in other geographical areas,
3. Students not enrolled for credit,
4. Students in non-college classes.

Further research might ascertain to what extent results of

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<sup>68</sup>Jane Zahn, and Laura Phillips, "A Study of Drop-out in University Adult Education," Adult Education, Volume 11, Number 4 (Summer, 1961), p. 230.

<sup>69</sup>Ibid., pp. 232, 233.

this exploratory study can be generalized.<sup>70</sup>

Research was conducted by Zahn (1964) three years later. She investigated students in university extension courses who enrolled for either credit or non-credit. Are anxiety and ability related to this enrollment dichotomy?

From the results of this study, we must conclude that differences exist between credit and non-credit classes in discouraging or encouraging students of low academic ability to complete university extension courses. Instead of the cause of dropout existing within the student, the cause of dropout would appear to be interaction between the ability and perhaps motivation the student brings to the course and certain elements within the course -- elements that distinguish credit from non-credit courses.<sup>71</sup>

In 1962 an article appeared that dealt more explicitly with the question of motivation. It is evident that Zahn's study deals mainly with the enrolled student, and seeks to answer Houle's question -- Who stays, and why? What is not so evident, however, is that motivation to participate in a learning activity need not be the same as motivation to continue in that activity. Knox and Sjogren (1962) stated:

it seemed. . . that motivation might be most influential at two points in the process; in the initial decision to participate and in whatever effect motivation might have on actual learning.<sup>72</sup>

The authors did not report results of any research in this publication. They did, however, help to clarify the need to study motivation,

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<sup>70</sup>Ibid., p. 234.

<sup>71</sup>Jane Zahn, "Dropout and Academic Ability in University Extension Courses," Adult Education, Volume 15, Number 1 (Autumn, 1964), p. 39.

<sup>72</sup>Alan B. Knox and Douglas Sjogren, "Motivation to Participate and Learn in Adult Education," Adult Education, Volume 12, Number 4 (Summer, 1962), p. 240.

and the need to recognize how motivation can vary or even change at differing stages in the process of adult education. Besides the rather obvious admission that motivation is a matter of concern to the adult educator, Knox and Sjogren candidly admit that, "The problem of motivation in the learning activity itself is more elusive than motivation to participate."<sup>73</sup> They also admit with some modesty, "It may be that motivation influences only the selection of, and application to, a learning activity, and thus has only an indirect influence on learning."<sup>74</sup>

The writers offer no solutions to the problems of professional adult educators. They do assist, though, in clarifying the statement of the problem: "Motivation to participate and motivation to learn are highly interrelated, but it seemed clearer to discuss them separately."<sup>75</sup>

It is interesting to compare the results of the work by Zahn and Phillips (1961) with this statement by Knox and Sjogren:

It has been demonstrated many times that only a relatively small proportion of variability in school performance can be explained by ability test scores.<sup>76</sup>

If variability in school performance -- to the extent of completing or not completing the course -- is not significantly influenced by ability test scores; if failure to complete a course or not complete it is related with statistical significance to a written test of academic ability; and if completion or non-completion of a course is not related to measures of manifest anxiety, might it be that a third (or more) intervening variable is at work? Zahn asks equivalently the same question.

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<sup>73</sup>Ibid., p. 241.

<sup>74</sup>Ibid., p. 240.

<sup>75</sup>Ibid., p. 240.

<sup>76</sup>Ibid., p. 242.

She states: "The cause of the dropout would appear to be interaction between the ability and perhaps motivation the student brings to the course and certain elements within the course."

Research into the possible relationships of such statements and studies has led to the question behind this investigator's study: Might it not be that two variables appear related only because they have a common relationship to a third variable? Might it not be that three-dimensional techniques will assist in the description and exploration of the occurrence of some events (it will not define their underlying causes) not previously anticipated? Common sense might suggest that anxiety is related to course completion and non-completion. Statistical evidence, however, leads to the rejection of the conjecture. Common sense might indicate that academic ability is related to completion and drop-out. Yet, only a small portion of variability in school performance (here understood to cover the entire spectrum from completion to drop-out) is explained by measured ability on test scores.

Accepting the facts that there are not comparable groups of subjects in the two studies reported, and that the work of Sjogren and Knox was not a statistical investigation, there is still the irreconcilable fact that the statements of two groups of professionals are in apparent contradiction. It is just possible, of course, that given the evidence with which each group worked, both have made statistically true statements!

Later, in 1965, Knox and Sjogren<sup>77</sup> reported the results of a study

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<sup>77</sup>Alan B. Knox and Douglas D. Sjogren, "Achievement and Withdrawal in University Adult Education Classes," Adult Education, Volume 15, Number 2 (Winter, 1965), pp. 74-88.

of achievement and withdrawal in adult education classes. They found evidence to support the fact that course achievement (as measured by course grade) does have a relationship to verbal ability and level of education, while it bears no relationship to the age of the student.<sup>78</sup> Having studied the completion and non-completion dichotomy also, they reported completion was related to measures of academic ability, and was negatively related to measures of passage of time (e.g., age, years since school) and to measures of level of anxiety.<sup>79</sup>

Studies such as these indicate certain characteristics of adult education that are important in the judgment of professionals: achievement (grades), withdrawal (completion and non-completion), motivation. These same general areas are of concern to professionals in correspondence instruction. Very much of the literature in the field is devoted to the study of completion and non-completion, drop-out and withdrawal.

Evans (1953) reported to the Fourth International Conference on Correspondence Education on a study conducted by Lamke:

1. Between 18 and 25 per cent of the students returned the first lesson;
2. Between 17 and 20 per cent of the students who returned the first lesson did not complete the fifth lesson;
3. Between 9 and 11 percent of the students who returned the fifth lesson did not complete the tenth lesson;
4. Between 5 and 15 per cent of the students who returned the tenth lesson did not complete all lessons;

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<sup>78</sup>Ibid., pp. 81, 82.

<sup>79</sup>Ibid., pp. 83, 84-85.



5. Of the surviving students, only 3 to 6 per cent did not take the final examination.<sup>80</sup>

Haberman (1954)<sup>81</sup> studied completion rates of high school correspondence students and reported a rate of 72.95 per cent, adding that it appeared that those who took less time to complete the course showed higher achievement.

Hughes (1955), in a doctoral study, reported that successful completion of courses was related to methods of study, and to three major motivational factors: need to earn credit for teacher certification; need to earn credit toward a college degree; desire for professional or vocational improvement.<sup>82</sup> James and Wedemeyer (1959) reported on non-completions and stated there were apparent differences in motivation operative for initial registration for a course, and for not completing it. They also make a warning statement deserving great attention in the study of the non-completer:

Non-completion is not necessarily equivalent to failure. The student may cease work in a correspondence course as soon as he has achieved a specific goal. This goal may relate only to particular aspects of his course. Concepts of goal achievement

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<sup>80</sup>Howard V. Evans, "How to Keep Our Students -- the Completion Rate," Proceedings, Fourth International Conference on Correspondence Education (State College, Pennsylvania: The Pennsylvania State College, General Extension Services) 1953, pp. 83-85.

<sup>81</sup>Don Haberman, "Completion Rates and Achievements of Students in Supervised Correspondence Study," (Master's Thesis) University of Nebraska, 1954.

<sup>82</sup>Charles Roy Hughes, "Influence of Some Selected Factors upon the Completion of Correspondence Courses," (Doctoral Thesis) University of Florida, 1955.

derived from orthodox, class-type educational programs must, therefore, be applied with care to non completed adult students.<sup>83</sup>

James and Wedemeyer's work suggests consonance with the report of Knox and Sjogren and their observations on the fluctuations and changes in motivation.<sup>84</sup>

Childs (1963)<sup>85</sup> reported on a study whose results did not support Zahn's earlier conclusion based on a similar investigation.<sup>86</sup> He stated:

From all of the above evidence it is not clear that intelligence or aptitude are important factors in determining which pupils carry courses to completion and which do not.<sup>87</sup>

Sloan (1966), studying drop-outs and cancellations reported that the nature of the course content was not a significant factor in non-completion, and that motives for initial enrollment were most frequently: (1) degree requirement, (2) self-improvement, (3) certification purposes, and (4) previous failure of the same course.<sup>88</sup>

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<sup>83</sup>Bernard J. James, and Charles A. Wedemeyer, "Completion of University Correspondence Courses by Adults," Journal of Higher Education, Volume 30, Number 2 (February, 1959) p. 95.

<sup>84</sup>Page 54, footnote 71.

<sup>85</sup>Gayle B. Childs, "An Analysis of Certain Factors which May Affect Completion in Supervised Correspondence Study," Journal of Experimental Education, Volume 32, Number 1 (Fall, 1963) pp. 101-105.

<sup>86</sup>page 53, footnote 58.

<sup>87</sup>Childs, *Ibid.*, p. 103.

<sup>88</sup>Denver Sloan, "Survey Study of University Correspondence Dropouts and Cancellations," Home Study Review, Volume 7, Number 3 (Fall, 1966) pp. 9-16.

Montross (1956) examined the relationship of personal instructor assistance of correspondence students (as opposed to the traditional communication by mail alone), to their attitudes and achievement. He reported that students given personal assistance manifested a greater degree of acceptance of correspondence study, but that their attitudes toward courses and the course assistance were not significantly different from the attitudes of a control group. However, in course achievement, those receiving the personal instructor assistance made significant gains over the control group.<sup>89</sup>

Hartsell and Peters (1966) conducted a study for administrative and budgetary purposes, to determine whether student response was affected by the use of first or second class mailing. Their work is another example of the spectrum of characteristics in correspondence instruction that have been studied. Their conclusion is directed toward the administrative character of the field:

Evaluation of our findings indicated that response to the materials sent by second-class mail does not differ appreciably from the paid enrollments resulting from first-class mailings. Making allowances for the variations in correspondence study materials mailed from the different institutions, second-class mailing should serve the purpose as well as the first-class mailing, with the resultant decrease in operating costs. In a year, the postal cost can be reduced sufficiently so that funds can be added to some other facet of the correspondence program of an institution.<sup>90</sup>

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<sup>89</sup>Harold W. Montross, "An Experimental Study of the Effectiveness of Field Assistance on the Attitudes and Course Achievements of Correspondence Study Students," Journal of Educational Research, Volume 50, Number 3 (November, 1956), pp. 161-173.

<sup>90</sup>Charles Hartsell, and James N. Peters, "First or Second Class: Which Is Better?" Home Study Review, Volume 7, Number 1, (Spring, 1966), pp. 36-37.

Scotton and Wecke (1966) reported on their investigation of differences in characteristics of students who enrolled for correspondence courses at the University of Illinois during the summer period, June 1 to July 31, and those who enrolled between September 1 and May 31. More summer enrollees identified themselves as students; fewer identified themselves as teachers; far fewer persons in categories other than these two enrolled during this period, June 1 to July 31.

At the close of the two-year period allowed for this investigation, it was found that the completion rate of the summer enrollees was 33.8 per cent, compared with 37.5 per cent for the non-summer enrollees. Grade point averages for each group were very similar and very high. The practical conclusion to the investigators' question, whether to promote summer enrollments in correspondence instruction, was:

These findings indicate that it is appropriate to encourage summer enrollments by means of statewide news releases, announcements to other colleges, and a special registration week.<sup>91</sup>

Donehower (1968) conducted a descriptive and exploratory study of correspondence study enrollments at the University of Nevada, 1963-1965. Her work most closely resembles the work of this study in two ways: (1) it employs the chi-square technique; (2) it explores the functions of several variables within the same institution.

The author stated as the purpose of her study:

Diverse policies and procedures affecting students enrolled in correspondence study have been adopted by institutions of

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<sup>91</sup>Donald W. Scotton, and Harold W. Wecke, "Summer and Non-Summer Correspondence Course Enrollments," *Adult Leadership*, Volume 15, Numbers (November, December, 1966) pp. 171-172, 174-177, 214.

higher learning. Such limitations as the length of the period of enrollment, the minimum time for the completion of the course, and the inactive period allowed before the submission of the first assignment have been set arbitrarily with little data to substantiate the decision. The purpose of this investigation was to provide such data by determining if relationships exist among such variables as sex, age, achievement, completion, withdrawal, reason for enrolling, distance from the correspondence center, educational background, and the time elapsed between enrollment and the submission of the first assignment. Practices based on the findings can be developed to assist the student in reaching maximum achievement in learning for his efforts.<sup>92</sup>

Having established the .05 level of significance to reject or accept the null hypothesis, Miss Donehower constructed twelve two-dimensional hypotheses, eleven of which were tested by the chi-square technique, and one by the rank difference method of computation of correlation. A summary of her findings as to the relationships of the variables in the twelve hypotheses is given on page 63.

The conclusions the author makes as a result of her investigation are as follows:

1. As the time lapse between enrollment and submission of the first assignment has a significant relationship on the probability the student will complete the course, the student should be encouraged to submit his lessons as soon as possible.
2. Techniques to guide the younger and less experienced should be developed so that he will be more likely to complete his course and receive a satisfactory grade.
3. Since the length of time to complete the course has no significant effect on the achievement of the student, procedures regarding the rate of submitting lessons and the minimum time allowed for completion of courses should

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<sup>92</sup>Grace M. Donehower, "Variables Associated with Correspondence Study Enrollments at the University of Nevada, 1963-1965," (Master's Thesis) University of Nevada, Reno (1968) p. 1.

DONEHOWER'S  
SUMMARY OF FINDINGS  
AS TO RELATIONSHIPS OF VARIABLES  
ASSOCIATED WITH ENROLLMENTS IN CORRESPONDENCE STUDY

<u>Null Hypotheses Accepted#</u>		<u>Null Hypotheses Rejected*</u>	
No significant relationship between		Significant relationship between	
Variable A	Variable B	Variable A	Variable B
B	Distance from center	A	Lapse of time between enrollment date and first lesson
	Length of time to complete		Completion rate
F	Length of time to complete	C	Distance from center
	Achievement		Completion rate
J	Age	D	Reason for enrollment
	Achievement		Length of time to complete
L	Sex	E	Reason for enrollment
	Achievement		Completion rate
		G	Previous education
			Completion rate
		H	Previous education
			Completion rate
		I	Age
			Completion rate
		K	Sex
			Completion rate

#There is no true difference

\*There is a true difference

be reviewed. Sound administrative efficiency needs to be the primary consideration; however, the best service to the student and his reasons for selecting correspondence study rather than residence classes should not be overlooked in the final decision.

4. The fact that the male student tends to be less likely to complete a course than the female student should be reviewed with the purpose of developing methods of guidance and encouragement to meet his special needs.<sup>93</sup>

Among her recommendations Miss Donehower makes one that is pertinent to this investigator's work. It is intended that this three-dimensional chi-square study of selected variables will answer Miss Donehower's statement of the need for in-depth studies:

In-depth studies regarding the courses in which the student enrolls in relation to his age, achievement, and educational level might bring out some important relationships. The instructor's method of presenting the material, the requirements of the course, and the general pattern of correcting, commenting, and grading the student's work could be part of this exploration.<sup>94</sup>

This investigator returns to his earlier observation (page 55) that third, intervening variables may be at work, and that the method of examination proposed in this study will assist in affirming or denying this observation. It is therefore intended that this work be the kind of in-depth study recommended by Miss Donehower.

#### SUMMARY

Research into the body of literature in both adult education and correspondence instruction has suggested that the works of the many professionals can be categorized into the four divisions presented in this

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<sup>93</sup>Ibid., p. 76.

<sup>94</sup>Ibid., p. 77.

chapter; namely:

1. Evaluative statements and general studies;
2. Surveys and profiles;
3. Comparative studies of instructional methods;
4. Studies of specific characteristics.

In general, it can be observed that:

1. Extensive surveys of particular institutions, covering a number of variables operative in correspondence instruction, have not been conducted;

2. The three-dimensional chi-square technique for analysis of data has not, to this time, been employed in the analysis of information in correspondence instruction;

3. This investigator has found only one similar study. Donehower's work bears resemblance to the work of this investigation in two ways:

- (a) it employs the chi-square technique (in a two-dimensional framework);
- (b) it explores the functions of several variables within the same institution.



## CHAPTER THREE

### REVIEW OF THE AVAILABLE DATA

This chapter reviews the data available in the Correspondence Study Division, Loyola University of Chicago. The summaries of data were manually compiled from the annual records (alpha lists and student number lists) maintained in the Division. The summaries cover the years 1952 to 1972 inclusive. Exceptions to this are noted in the proper places. The chapter is divided into two sections:

Part I -- Manual Summaries of Available Data

Part II - Organization of the Data

#### Part I -- Manual Summaries of Available Data

The investigator manually compiled enrollment data in the Correspondence Study Division for the years 1952 to 1972 inclusive. Enrollments within the Division are classified according to three definitions of the term. All counts of enrollment are made on the basis of a calendar year, January 1 to December 31.

1. New Student Enrollments - (Table 1, page 72): When a student first enrolls in the Division he or she is assigned a permanent student number. The number identifies the person in all subsequent enrollments for courses taken in the Division at any time. The total of new student enrollments is therefore the sum of all new student numbers issued in a calendar year. The manual total of the new student enrollments for 1952 to 1972 is 20,559.

2. Student Enrollments - (Table 2, page 73. Each time a student, new or repeating, enrolls for one or more courses in the Division, he or she is counted and listed alphabetically according to the month(s) of enrollment. Thus, for example, a person who enrolls for a course in January and enrolls for a second course in April is counted twice in this category of enrollment data. The manual total of all student enrollments for 1952 to 1972 is 23,973. It is noted, however, that this enrollment data was not available for 1967.

3. Course Enrollments - (Table 3, page 74. This is a count of all the courses taken by any enrolled student, new or repeating. This is the largest of all the enrollment figures, therefore. The manual total of all course enrollments for 1952 to 1972 is 25,798. It is noted, however, that this enrollment data was not available for 1967.

A graphic presentation of these tables is given in Table 4, page This profile demonstrates the differences and fluctuations in the three kinds of enrollment for the years 1952 to 1972.

The following chart is also presented to demonstrate the enrollment differences, viewed as single totals for the entire twenty-one year period. The three totals correspond to the enrollment definitions presented above. Since the data for 1967 are lacking for student enrollments and course enrollments, the adjusted total count of new student enrollments is given, to provide a more consistent picture of the variations in the data.

TOTAL ENROLLMENTS PROFILE  
(1952 - 1972)

(Minus Data for 1967 in the Three Categories)

New Student Enrollments	--	19,512
Student Enrollments	--	23,793
Course Enrollments	--	25,798

These presentations of the total quantities of available data are given here, to demonstrate the amounts of researchable material that can be used in further explorations of questions and hypotheses, after the completion of this descriptive and exploratory study. This study did not employ the total amounts of data that have been presented here. It used data from the years 1969, 1970, and 1971. Explanations for this is provided in Chapter Four: Methodology and Hypotheses.

A presentation of the total enrollments profile for the three years used in this study is given below. This provides a comparison between the quantity of data from which information was taken, and the total quantity available for future studies:

TOTAL ENROLLMENTS PROFILE  
(1969, 1970, 1971)

<u>Enrollment Definitions</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>Totals</u>
New Student Enrollments	1,366	1,357	1,110	3,839
Student Enrollments	1,704	1,669	1,454	4,827
Course Enrollments	1,881	1,832	1,617	5,330

Part II -- Organization of the Data

A student's academic and personal data pertaining to enrollment in the Correspondence Study Division are contained in the documents

presented in this section of Chapter Two. The basic sources of data are:

1. Application for Enrollment
2. Coding Information for Data Processing Cards
3. The IBM Card Information Sheet
4. The Lesson Card
5. The Permanent Record Card
6. Card for Notification of Completion of Course, and of Final Grade

The basic source of initial information is the application for enrollment. From this application the data processing card and the IBM card information sheet are prepared. These cards then serve as the sources of continuous record keeping in the Division. Inspection of these materials shows that allowance is made on the cards for record of student progress in a course. The exhibit of the first three data sources is found on pages 76-80.

A continuous record of a student's progress during a course is also maintained on the lesson card. Grades for each of the forty assignments and for the final examination, and the record of the final grade are maintained. Because of the method of instruction, it is necessary to explain the relationship of the final examination to the final grade for the course. The following information is given in the bulletins of the courses:

Credit for a course is given to those students who finish the recitation papers satisfactorily and pass a satisfactory examination with a grade of at least D within the time specified. All lessons must be completed before examinations are administered. The grade of the final examination accounts for 75 to 100% of the total grade for the course.

In the bulletins of courses for 1968, 1969-1970, and 1970-1971, the

same regulation is given.<sup>1</sup> The phrase "within the time specified" refers to the general time limit for completing a course -- one calendar year, with two six-month extensions granted when necessity requires.

This lesson card is given to the instructor for continuous record keeping while the student is pursuing his or her study. It can be seen from the instruction on the card that the instructor submits this card to the Division for record keeping when the course is completed, or if the student withdraws. This card is exhibited on page 82.

The last two basic sources of data are presented on page 83. The permanent record card serves as the source for transcript information. It is always kept on file in the offices of the Correspondence Study Division. Whenever a student requests transcript information, reference is made to this card and appropriate notification of performance is sent according to the request of the individual or the proper institution. The card is a continuous record of any and all courses a student attempts at any time through enrollment in the Division.

The final card at the bottom of page 83 is self-explanatory. It is used to notify the student of completion of the course, and the final grade that will be entered on the permanent record card.

These sources of basic information, and the sources of enrollment data described in Part I, constitute the materials accessible for this descriptive and exploratory study. These materials will be used in any future investigations of Correspondence Study at Loyola University of Chicago. And it is anticipated that, because of the nature of this initial study, the materials will be of invaluable use in the future.

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<sup>1</sup>Bulletins for these years are cited, since they cover the calendar periods of the data used in this study.

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NEW STUDENT ENROLLMENTS, CORRESPONDENCE STUDY DIVISION,  
LOYOLA UNIVERSITY OF CHICAGO, JANUARY, 1952 TO DECEMBER, 1972

<u>YEAR</u>	<u>JAN.</u>	<u>FEB.</u>	<u>MARCH</u>	<u>APRIL</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEPT.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>TOTAL</u>
1952	18	38	26	38	52	46	50	46	72	89	49	41	565
1953	49	67	69	39	78	95	67	76	107	98	53	47	845
1954	42	69	64	38	51	103	74	71	100	85	74	48	819
1955	71	93	55	37	37	108	56	54	86	332	49	38	1,016
1956	46	74	52	34	46	107	65	78	95	96	54	29	776
1957	55	65	51	44	66	95	71	84	100	105	52	37	825
1958	66	87	52	43	58	135	53	72	140	140	50	41	937
1959	62	82	55	44	52	163	55	43	114	123	57	25	875
1960	55	68	40	31	48	117	66	59	93	95	46	28	746
1961	56	82	50	33	67	115	56	82	127	119	60	26	873
1962	88	73	68	51	59	142	77	80	188	126	56	38	1,046
1963	84	106	69	47	71	137	81	102	154	134	73	36	1,094
1964	95	88	59	67	69	139	70	85	153	142	82	59	1,108
1965	73	125	84	54	70	125	72	65	148	130	104	61	1,111
1966	95	98	67	71	86	133	75	88	108	90	71	63	1,045
1967	80	120	86	68	97	132	60	84	105	104	67	44	1,047
1968	86	106	95	60	80	114	76	87	133	120	73	61	1,091
1969	103	109	80	61	111	186	128	117	160	149	97	65	1,366
1970	143	141	102	91	106	168	100	104	140	119	83	60	1,357
1971	93	122	90	65	105	182	69	81	137	65	60	41	1,110
1972	94	84	83	47	92	117	62	65	108	66	59	30	907

STUDENT ENROLLMENTS, CORRESPONDENCE STUDY DIVISION,  
LOYOLA UNIVERSITY OF CHICAGO, JANUARY, 1952 TO DECEMBER, 1972

<u>YEAR</u>	<u>JAN.</u>	<u>FEB.</u>	<u>MARCH</u>	<u>APRIL</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEPT.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>TOTAL</u>
1952							26	22	44	39	21	18	170
1953	22	47	44	22	50	78	33	34	62	65	17	24	498
1954	57	83	82	56	65	127	74	88	129	104	89	58	1,012
1955	94	109	75	49	50	136	74	73	104	127	55	52	998
1956	65	101	68	48	68	122	91	107	116	115	77	43	1,021
1957	79	95	76	59	92	120	92	112	125	127	66	53	1,096
1958	84	116	80	59	80	156	82	97	211	175	71	58	1,269
1959	82	117	73	69	73	191	79	67	154	151	77	50	1,183
1960	73	107	63	47	88	160	91	84	122	124	59	43	1,061
1961	85	104	64	52	82	142	76	111	167	149	85	35	1,152
1962	119	93	86	69	74	177	91	112	225	192	73	50	1,361
1963	117	139	84	68	91	168	110	134	191	172	102	53	1,429
1964	126	123	83	96	102	169	104	115	191	172	110	80	1,471
1965	105	159	116	68	93	163	91	106	189	169	126	83	1,468
1966	133	136	98	89	119	167	97	112	146	112	84	77	1,370
1967													
1968	121	133	122	80	108	147	101	108	162	145	95	78	1,400
1969	134	142	102	75	135	227	166	143	193	182	119	86	1,704
1970	167	170	126	119	134	204	124	132	167	148	102	76	1,669
1971	124	148	119	92	138	231	91	107	172	91	79	62	1,454
1972	122	113	104	62	120	154	80	78	132	99	84	39	1,187

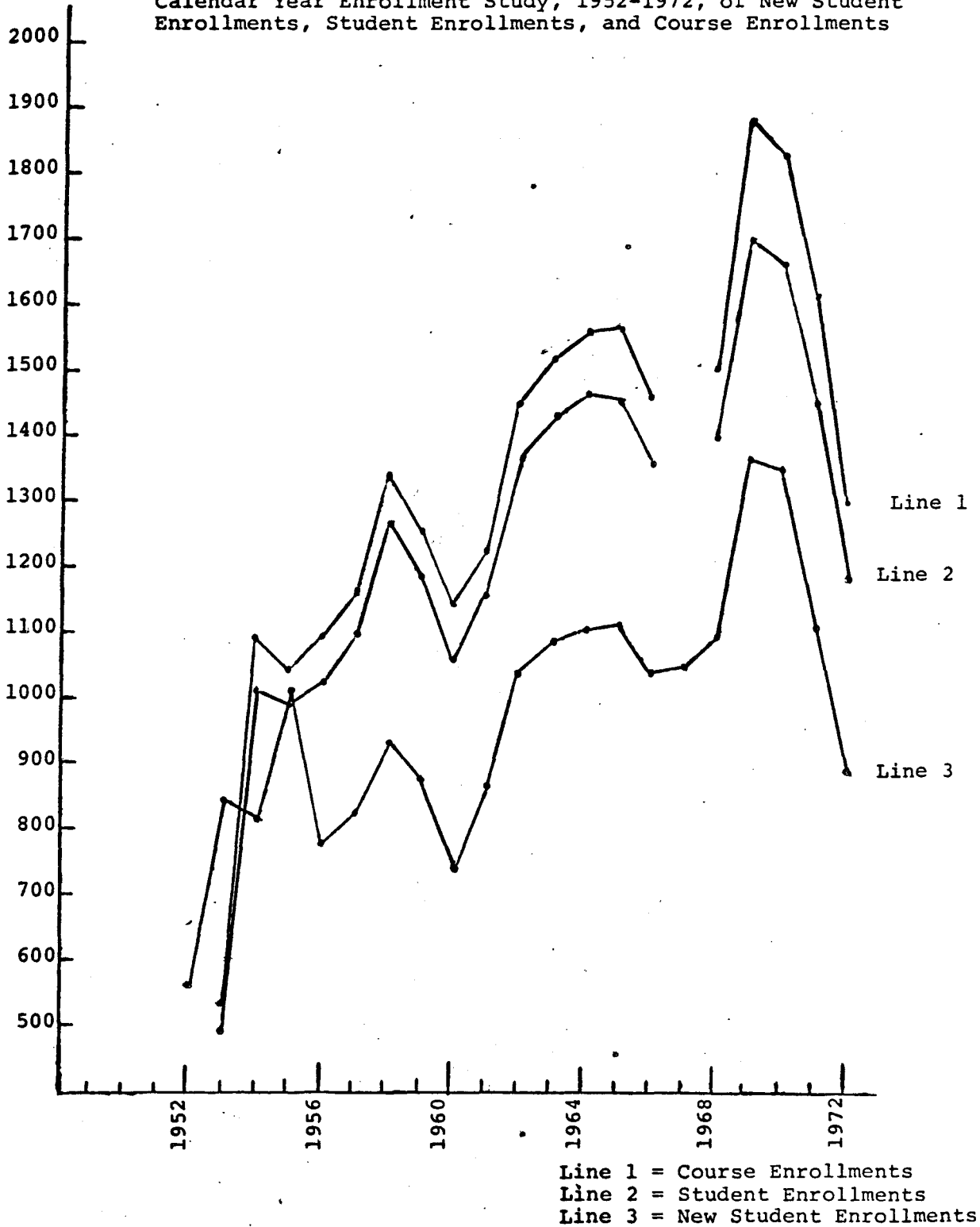


COURSE ENROLLMENTS, CORRESPONDENCE STUDY DIVISION,  
LOYOLA UNIVERSITY OF CHICAGO, JANUARY, 1952 TO DECEMBER, 1972

<u>YEAR</u>	<u>JAN.</u>	<u>FEB.</u>	<u>MARCH</u>	<u>APRIL</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEPT.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>TOTAL</u>
1952							30	24	50	46	26	21	197
1953	23	48	53	22	52	91	35	35	66	68	18	25	536
1954	61	92	86	62	73	127	81	99	142	109	99	60	1,091
1955	100	114	76	51	51	149	77	77	108	133	56	53	1,045
1956	69	108	69	53	76	136	98	116	123	119	79	45	1,091
1957	87	103	79	64	102	127	98	119	132	130	67	55	1,163
1958	89	121	87	63	88	166	87	104	220	183	77	59	1,344
1959	85	124	78	70	77	215	87	73	161	158	79	52	1,259
1960	77	114	67	51	104	177	99	94	126	130	60	44	1,143
1961	88	110	67	53	87	158	82	124	173	156	87	36	1,221
1962	126	101	98	75	81	186	99	119	240	203	75	52	1,455
1963	120	147	91	71	94	189	118	140	205	181	110	54	1,520
1964	134	134	89	99	107	187	111	117	206	178	114	84	1,560
1965	108	165	126	68	104	178	103	111	200	186	137	86	1,572
1966	139	144	106	98	127	173	102	131	158	117	89	77	1,461
1967													
1968	125	140	128	86	120	166	109	116	183	153	98	82	1,506
1969	144	155	112	84	149	263	181	154	212	202	129	96	1,881
1970	183	190	141	134	152	224	135	143	176	159	112	83	1,832
1971	138	154	133	99	165	264	100	117	190	105	86	66	1,617
1972	132	125	111	64	137	170	92	84	149	107	92	41	1,304

CORRESPONDENCE STUDY DIVISION, LOYOLA UNIVERSITY OF CHICAGO

Calendar Year Enrollment Study, 1952-1972, of New Student Enrollments, Student Enrollments, and Course Enrollments



CORRESPONDENCE STUDY DIVISION

Application for Enrollment

Applicant's full name \_\_\_\_\_  
(Sisters must include family name.) (Last) (First) (Middle)

Date \_\_\_\_\_ Amount Enclosed \$ \_\_\_\_\_  
Remit in postal or express order in U.S. dollar.  
 If local check list is used, add 10 cents for collection.

Present address in full \_\_\_\_\_  
(i.e., address to which course material should be sent.)

Permanent address in full \_\_\_\_\_

Occupation \_\_\_\_\_

Religion \_\_\_\_\_  
(If member of religious order, give name of order)

Date of Birth \_\_\_\_\_ Place of Birth \_\_\_\_\_  
(Month) (Day) (Year)

Indicate your purpose in applying for this course by checking one of the boxes \_\_\_\_\_

- Teacher's Certificate       Culture  
 University Credit

Give name of institution where credit is desired.  
 Credit toward a university Degree is given only by the college  
 in which the credit is to be applied and under its regulations.

Previous Education: Full statement of your preparation for course in which you are enrolling.

	Name of school or institution	Did you graduate?	Date attended	
			From:	To:
High School				
Colleges or universities				
Courses you have had leading to the course for which you are applying				

Course Desired \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Please order required texts from Loyola Bookstore and Bill Me

Remarks \_\_\_\_\_ DO NOT WRITE IN THIS SPACE

Signature of Applicant \_\_\_\_\_

Tuition \_\_\_\_\_

Tuition \_\_\_\_\_

Texts \_\_\_\_\_

Total \_\_\_\_\_

Attach remittance and mail to:

LOYOLA UNIVERSITY  
 Correspondence Study Division  
 820 N. Michigan Avenue  
 Chicago, Illinois 60611

Approval \_\_\_\_\_  
 \_\_\_\_\_

LOYOLA UNIVERSITY  
CORRESPONDENCE STUDY DIVISION

CODING FOR DPC CARDS

<u>Positions</u>	<u>Category</u>	<u>Field</u>
1-5	Student Number	1-5 (incl.)
6-23	Student Name	6-23 (incl.)
24	Sex	24
	1. Male	
	2. Female	
25	Religious Order	25
	1. Sister	
	2. Brother	
	3. Priest	
	4. Non-Catholic Cleric	
	5. Seminarian	
	6. None	
26	Religion	26
	1. Catholic	
	2. Non-Catholic	
	3. Unknown	
27-32	Date of Birth	27-32 (incl.)
33-34	State of Permanent Residence of Student (acc. to DPC)	
35	Citizenship	33-34
	1. Citizen	35
	2. Non-Citizen	
	3. Unknown	
36	Geographic Origin from which application is received	
	1. United States	
	2. U.S. Territories	
	3. Canada	
	4. Mexico	
	5. Central & South America	
	6. Europe & British Isles	
	7. Asia	
	8. Africa	
	9. Australia	
	0. At Sea	
37	Occupation in residence at another college	37
	1. Yes	
	2. No	
	3. Loyola (current)	
	4. Loyola (former)	

## CODING FOR DPC CARDS (Cont'd)

<u>Positions</u>	<u>Category</u>	<u>Field</u>
38	Tuition Source 1. Self 2. USAFI 3. Vocational Rehabilitation 4. Hadley School for the Blind 5. Veteran's Administration	38
39-40	Teacher's Code	39-40
41-58	Course Title (according to DPC)	41-58 (incl.)
59-60	Department	59-60
61-63	Course Number	61-63 (incl.)
64	Credit 1. College - 3 semester hours 2. Non-Credit	64
65	Purpose 1. Degree required - other 2. Degree required 3. Teacher Certification 4. Professional improvement 5. Graduate Prerequisite 6. Continuing Education 7. Culture	65
66-71	Date Commenced	66-71 (incl.)
72-77	Date Completed	72-77 (incl.)
78	Grade	78
79-80	Card Code H1. Load H2. Maintenance H3. Delete	79-80

## DPC Codes for States and Foreign Countries

<u>State of Permanent Residence (7)</u>	<u>Other than U.S.</u>	<u>Geographic Origin</u>
1 - Alabama	52 - Philippines	1 - United States
2 - Arizona	53 - China	2 - U.S. Territories
3 - Arkansas	54 - India	3 - Canada
4 - California	55 - Mexico	4 - Mexico
5 - Colorado	56 - Turkey	5 - Cent. and S.America
6 - Connecticut	57 - Iran	6 - Europe
7 - Delaware	58 - Canada	7 - Asia
8 - District of Columbia	59 - Greece	8 - Africa
9 - Florida	60 - Puerto Rico	9 - Australia
10 - Georgia	61 - British Guiana	0 - at sea
11 - Idaho	62 - Italy	
12 - Illinois	63 - Iraq	
13 - Indiana	64 - Japan	
14 - Iowa	65 - Poland	
15 - Kansas	66 - Yugoslavia	
16 - Kentucky	67 - Colombia	
17 - Louisiana	68 - Malaya	
18 - Maine	69 - France	
19 - Maryland	70 - Venezuela	
20 - Massachusetts	71 - Africa	
21 - Michigan	72 - Costa Rica	
22 - Minnesota	73 - British Columbia	
23 - Mississippi	74 - British Columbia	
24 - Missouri	75 - Ireland	
25 - Montana	76 - Indo China	
26 - Nebraska	77 - North West Indies	
27 - Nevada	78 - Czechoslovakia	
28 - New Hampshire	79 - Austria	
29 - New Jersey	80 - Germany	
30 - New Mexico	81 - Guam	
31 - New York	82 - Formosa	
32 - North Carolina	83 - British West Indies	
33 - North Dakota	84 - Republic of Honduras, C.A.	
34 - Ohio	85 - Syria	
35 - Oklahoma	86 - Chile	
36 - Oregon	87 - Thailand	
37 - Pennsylvania	88 - Virgin Islands	
38 - Rhode Island	89 - Argentina	
39 - South Carolina		
40 - South Dakota		
41 - Tennessee		
42 - Texas		
43 - Utah		
44 - Vermont		
45 - Virginia		
46 - Washington		

APO - Army Post Office  
FPO - Fleet Post Office

## DPC Codes for States and Foreign Countries

<u>State of Permanent Residence (7)</u>	<u>Other</u>	<u>Geographic Origin</u>
47 - West Virginia		
48 - Wisconsin		
49 - Wyoming		
50 - Alaska		
51 - Hawaii		





**LESSON CARD**  
**LOYOLA UNIVERSITY**  
**CORRESPONDENCE STUDY DIVISION**

Date \_\_\_\_\_

Register \_\_\_\_\_

for your course \_\_\_\_\_

Education: \_\_\_\_\_

First payment received (date) \_\_\_\_\_

Second payment received \_\_\_\_\_

Final payment \_\_\_\_\_

Return this card to the office when course is completed or when time expires.

Grade	Papers Ret'd. Date	Time expires _____							
1	9	17	25	33					
2	10	18	26	34					
3	11	19	27	35					
4	12	20	28	36					
5	13	21	29	37					
6	14	22	30	38					
7	15	23	31	39					
8	16	24	32	40					

Remarks:

Average Grade for Assignments \_\_\_\_\_  
 Examin. Grade \_\_\_\_\_  
**FINAL GRADE** \_\_\_\_\_



## CHAPTER FOUR

### METHODOLOGY AND HYPOTHESES

#### Introduction

In 1965 Johnson wrote an article "to show some of the ways in which educators working with adults contribute to our understanding of the dynamics of the learning process,"<sup>1</sup> He emphasized that focusing on the needs of the learner, Irrespective of any methodology is an enduring, if often forgotten principle of education:

One of the real problems adult educators face is creating a climate in which adults will feel free to identify their learning needs. Too many adults have not been given the freedom or the responsibility to determine their learning needs in their earlier years. . . .

. . . .Do teachers attempt to discover the nature of student needs? Usually not until one gets to graduate school does this occur.

Why not spend more time with the learner in helping him to discover meaningful learning needs? Why not create the kind of learning climate in which he will feel free to express his needs?

If we are to meet the challenge, additional time (preferably at an earlier age) should be spent in helping learners identify and work with meaningful learning needs. The needs of the learner should have a place of prominence in the learning situation.<sup>2</sup>

It cannot escape reflection that Houle's<sup>3</sup> (1964) observations on who

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<sup>1</sup>Leo F. Johnson, "The Learning Process: A Challenge and A Response," Journal of Education, Volume 148, Number 1 (October, 1965), p. 43.

<sup>2</sup>Ibid., pp. 50-51.

<sup>3</sup>See Chapter Two, page 33, footnote 13.

stays, and why, are interwoven into these more general remarks by Johnson. On the more theoretical side of the question of learning and its dynamics, Johnson continues with a discussion of the creative interaction -- a resonance between the teacher and the learner:

Educators never seem to learn. How many of our classes are taught where the principal communication is between the teacher and a member of the class or the class? Most of the communication is one-way. There is very little interaction among the class members. Is this too much to ask? Apparently it is. Learning is not very effective when one-way communication exists. We need to strive for more interaction among the teacher and the learner and those involved in the learning situation.

An ideal for creative interaction among those involved in the learning situation is suggested by Dr. Leland Bradford. He refers to the learning situation as "the teaching-learning transaction." Seven dimensions of the transaction are identified:

- '1. What the learner brings to the transaction (in addition to ignorance and abilities).
2. What the teacher (helper) brings to the transaction (in addition to subject knowledge).
3. The group as a setting for learning.
4. The interaction process among class members and the teacher.
5. The conditions necessary for learning and change.
6. The maintenance of change and utilization of learning.
7. The establishment of the process of continued learning.'

To be effective participants in the learning situation requires that we increase our understanding of the teaching-learning transaction.<sup>4</sup>

There are of course, many evidences of excellent teacher-student and teacher-class rapport. Johnson's comments are primarily focused upon the classroom setting of the student-teacher relationship where better rapport is desired. The lack of creative interaction is evidenced in the communication between the teacher and a member of the class while the

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<sup>4</sup>Johnson, Ibid., p. 51.

remaining students sit idle. It is equally patent in the non-communication among the idle majority. It is as though an exchange between too few is no interaction among any.

The author's remarks are also apropos to correspondence instruction. His presentation of seven dimensions indicates the relevance of creative interaction to this system. What can be said about the environment of any teaching-learning experience when the first, second, fifth, sixth, and seventh dimensions are lacking? The learning dynamic occurs within the dimensions of teacher and course and student. What each brings to the intersection of the three determines the momentum of the total experience. But the intersection and the momentum are coincidental to locale. Professionals in correspondence instruction are proud that the sixteenth President of the United States is part of their educational tradition.

### Definitions of Correspondence Instruction

What identity have the professionals in correspondence instruction tried to give to their method? The dynamism of this system is best seen in the definitions that have been proffered.

Their definition of correspondence instruction is not especially penetrating, but Bittner and Mallory (1933) suggest the presence of a system. What they say carries implications of the dynamic quality of the method:

University correspondence instruction is not a mere administrative device to sell home study courses or to teach by mail through the services of a competent instructor; it is rather a system whereby the university faculty and the university itself in its institutional aspects utilizes the mail to

with students, to keep in touch with them, not only to teach them through specific courses, but to include them in the college body.<sup>5</sup>

Mail is the means of student contact. Specific instruction and inclusion of the correspondence student in the college body are the ends to be achieved. Wedemeyer and Childs (1961) emphasize similar characteristics. They view written communication as the vehicle for guidance of the learning process:

Correspondence study is based upon the principles and procedures found in any teaching-learning situation. Learning must be done by the student himself. However, learning will progress more efficiently if guidance is given to the learning process. In correspondence study, this guidance is provided through written communication between teacher and pupil.<sup>6</sup>

Houle (1965) also emphasizes the dynamics of the instructional process. He gives five components of correspondence instruction:

(1) specially prepared materials, written in self-explanatory fashion and arranged in a series of lessons; (2) supplementary printed and other materials; (3) a series of exercises to be worked out by the student; (4) the evaluation of these exercises by a competent instructor with the student being informed of the evaluation . . . and (5) a final examination over the whole course.<sup>7</sup>

This investigator finds one fault with Houle's definition. It is incorrect to say that Houle is giving primary emphasis to teacher evaluation in the student-teacher communication. Communication is implied, though it

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<sup>5</sup>Walton S. Bittner and Hervey F. Mallory, University Teaching by Mail (New York: The Macmillan Company) 1933.

<sup>6</sup>Charles A. Wedemeyer and Gayle B. Childs, New Perspectives in University Correspondence Study (Chicago: Center for the Study of Liberal Education for Adults) 1961, p. 7.

<sup>7</sup>Cyril O. Houle, "Correspondence Instruction," Encyclopaedia Britannica, 14th edition, Volume VI (1965) pp. 544-545.

is not an itemized element of correspondence instruction. This investigator judges that the interchange is important enough to deserve itemization.

This aspect of the dynamic process is expressed by Erdos (1967):

Correspondence teaching is a method of teaching in which the teacher bears the responsibility of imparting knowledge and skill to a student who does not receive instruction orally, but who studies in a place and at a time determined by his individual circumstances.<sup>8</sup>

It is noteworthy that Erdos rejects the phenomenon of oral instruction as part of correspondence study. This lends emphasis to the later remarks of Otto Peters.<sup>9</sup> He comes close to stating that the presence of written (or the absence of oral) instruction constitutes an essential difference between correspondence instruction and more traditional classroom presentation.

Peters (1971) presents a descriptive definition of correspondence study based upon his earlier presentation that the method is an industrialized form of instruction. He proffers a definition taken from an investigation of the industrial production process:

Correspondence study is a method of imparting knowledge and skills which is rationalized by the application of division of labour and organizational principles as well as by the increased use of technical media, especially for the purpose of reproducing objectivated teaching behavior which makes it possible to instruct great numbers of students at the same time wherever they live.<sup>10</sup>

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<sup>8</sup>Renee F. Erdos, Teaching by Correspondence (London: Longman, Green and Company, Limited) 1967, p. 10.

<sup>9</sup>Chapter Two, page 51, footnote 64.

<sup>10</sup>Otto Peters, "Theoretical Aspects of Correspondence Instruction," The Changing World of Correspondence Study, Ossian MacKenzie and Edward L. Christensen (editors), p. 226.

This investigator has a reservation about such a definition. This formulation is based upon a transfer of concepts and processes found in industrial production. It is an operational definition -- and so are many others. More important, it is an analogous operational definition.

Argument based upon analogy, always implies that there are likenesses and differences in the analogs. The Webster Dictionary definition of analogy is appropriate:

A form of inference in which it is reasoned that if two (or more) things agree with one another in one or more respects, they will (probably) agree in yet other respects.

Perhaps the two most important words in Webster's definition are "probably" and "other." Industrial production in modern society carries connotations of mass production. What is demanded -- or ordered, or required -- is produced. And production can be so controlled that orders can be mass produced. Realization of teaching objectives is a goal of a competent teacher and of a competent method. But the goals are realized in another. Learning takes place within the individual. It is an immanent activity. It is not reproduced in the student by the instructor! Peters describes the phenomenon of interaction. But interaction and its result, learning, are like the industrial production process in some respects. They "probably" disagree with it, in a nearly essential manner, in other respects!

In their report of the Cooperative Education Research Project (CERP) MacKenzie (1968) and his collaborators emphasized the instructional character of correspondence education:

To avoid confusion, CERP uses exclusively the term correspondence instruction. The term instruction is intended to strengthen the point that a method and not a goal is being described. Correspondence instruction is a method of instruction in which corres-



pondence is the means of communication between student and teacher. . . .

CERP defines instruction, for purposes of this study, as (1) conscious, deliberate effort (2) to affect or alter the environment of an individual in such a way (3) as to cause him to behave or be able to perform in some given manner (4) and to do so under specified conditions. . . .

To this definition of instruction, one need only add the qualification that this "deliberate effort" be carried out by means of correspondence to arrive at a suitable definition of correspondence instruction. (Note: Although most correspondence instruction is carried out through the mail, this is only one of several possible means of distribution.)

CERP, however, insists on a further distinction. For the purposes of this study, correspondence instruction refers only to instruction offered through correspondence which requires interaction between the student and the instructing institution. . . . In popular terminology, self-study programs, home study, and correspondence instruction may be synonymous.<sup>11</sup>

These definitions of correspondence instruction assume another dimension when an examination is made of a recent paper of the Philosophy Committee of the Correspondence Study Division of the National University Extension Association. The Committee stated there is a growing awareness among persons involved in non-classroom instructional methods,

that many people can and do learn effectively without direct sustained contact with a professor during the duration of the course or program. In that sense, the student studies and learns in a situation remote from and largely independent of his instructor. . . .

If we continue to keep correspondence study as a title, we must defend why we have selected the mechanical means of dissemination, the vehicle of the process, in preference to a more important aspect, the process itself. . . . A broader term would seem to better define our interests and the interests of those we serve since a more flexible programming could be utilized by developing components of content taught and learned by the means

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<sup>11</sup>Ossian MacKenzie and Edward L. Christensen, and Paul H. Rigby, Correspondence Instruction in the United States (New York: McGraw-Hill Book Company) 1968, pp. 2-4.

best suited to that content.

Independent Study as a title has its weakness and strength. It cannot identify a specific program because the kinds of independent study are legion, but it allows us to use a multiplicity of these programs to meet the needs of those who study independently. If the name of this Division of NUEA is changed to "Independent Study," we must recognize that the activities of the Division have been expanded.<sup>12</sup>

The title of the Committee's presentation is not without its own significance: "A Rose by Any Other Name?" What is important is the observation that these professionals are searching for the specific identity -- the uniqueness -- of this method of student-teacher interaction. All correspondence instruction is independent study. Not all independent study, however, is correspondence instruction.

### Interaction

Johnson's remarks and these definitions demonstrate the professionals' inquiring search into the dynamic quality of correspondence instruction. Effective participation in the teaching-learning experience requires creative interaction. An index of the effectiveness of the method is found in the knowledge of whether, and to what extent, there is interaction between student, course, and teacher.

The hypotheses presented in this study test the statistical significance or non-significance of the existence of such interaction. The statements themselves have importance because of their evaluations by professionals in correspondence instruction.

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<sup>12</sup>Philosophy Committee (John J. DeRolf, Chairman), Correspondence Study Division of the National University Extension Association, "A Rose by Any Other Name?" An unpublished paper of the committee.

The three-dimensional chi-square analysis used in this investigation of the interrelationships among variables is basically a probe into one question: Is the frequency of occurrence of the three-dimensional event (in any hypothesis) additive? If the hypothesis is true, it is correct to say the analysis revealed no interaction between the components of the statement. (Interaction may still exist. The statistical method did not reveal it.) It is correct to say, then, that each component exercises an influence apart from the others.

If the hypothesis is not true, interaction of the components produces effects inexplicable by the addition of categorized data.<sup>13</sup> Lindquist's observation on triple interaction is appropriate:

It should be apparent that the triple interaction may be much more pronounced in one of the component  $2 \times 2 \times s$  tables than in others, or that there may be no triple interaction in some such tables and some triple interaction in others. It is possible, in other words, that the triple interaction for the whole table is not homogeneous.<sup>14</sup>

Stating that interaction does or does not exist with statistical significance is not tantamount to precisely identifying the influence. This study is descriptive and exploratory inasmuch as it makes an effort to determine whether interaction is present among the three variables under inspection.

Winer has stated that "from many points of view, interaction is a

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<sup>13</sup>Helen M. Walker, and Joseph Lev, Statistical Inference (New York: Holt, Rinehart and Winston) 1953 pp. 350-351.

<sup>14</sup>E. F. Lindquist, Design and Analysis of Experiments in Psychology and Education (Boston: Houghton Mifflin Company) 1953, p. 229.

measure of the nonadditivity of the main effects."<sup>15</sup> This is the same phenomenon already observed by Walker and Lev. (Fn. 13, page 92).

The significance of this investigation is found in the fact that it attempts to statistically investigate the interaction spoken of by Johnson, and implied in so many definitions of correspondence instruction. If there is a dynamic within correspondence instruction that makes it a method of instruction at least as adequate as any other, that vitality will be found in the interaction of the teacher, the student, and the course. It can also be found in the three-dimensional investigation of variables related to any one of those main contributors, or to any combination of them.

To assist in the description of interaction in this investigation, an analogy is appropriate. It is commonly known that water and alcohol mix. What is just as commonly expected (but does not occur) is that equal measures of each, when added, will produce twice the amount of either taken singly. Interaction of the two substances is such however, that the expectation is not the reality. Each does not exercise an influence apart from the other. Experimental evidence reveals a molecular interaction, a previously unexpected dynamic.

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<sup>15</sup>B.J. Winer, Statistical Principles in Experimental Design (New York: McGraw-Hill Book Company) 1962 p. 148 "In words, the main effect for level  $a_1$  is the difference between the mean of all potential observations on the dependent variable at level  $a_1$  and the grand mean of all potential observations." p. 146.

### Variables Associated with the Statements

The variables associated with the statements to be tested can be viewed in two ways. The first of these is to review the coding information for the data processing cards presented in Chapter Three. The data processing cards represent the manner in which correspondence instruction information is stored. To this extent, therefore, it is the most important of the ways in which the variables must ultimately be viewed for this study. The variables are retrievable for research subject to the limitations of the coding process. The more generalized meanings of the variables within the method are subject to the limitations of their availability for recall from the information system.

The second, more generalized meanings of the variables are derived from the correspondence instruction system itself. The terms requiring explication from this second point of view are as follows:

Correspondence course -- This is a course of instruction conducted primarily by written communication.

Course completion -- This is a course for which the requirements related to lesson assignments and examinations have been met, and a final grade has been assigned by the instructor.

Course non-completion -- This is a course originally taken but never completed according to the conditions of the previous definition. At Loyola University this is reflected in a recorded grade of either W or W-Inc.

Upper and Lower Division Courses -- The numbered designations of the former are in the range of 300-399; of the latter, in the range 100-299.

Age and Age Range -- The first is determined as the time from year of birth to year of enrollment; the second, for this study, as the five-year intervals used by Donehower (1968).<sup>16</sup>

Grade -- This is the final rating or evaluation of student achievement. It corresponds generally to the terms excellent, good, fair, passed, failed, withdrew. These ratings are explained in more detail in Chapter One, page 24.

Student Motivation -- This term includes the variety of reasons a student may give for enrolling in a course. Enrollment motivation is emphasized here, to distinguish it from the motivational factors observed by Knox and Sjogren (Chapter Two, page, page 54).

Within the Correspondence Study Division there are seven possible enrollment motivational factors that can be used in analysis:

1. Degree Required - Other: The course is taken to fulfill degree requirements at another academic institution.
2. Degree Required: The course is taken to fulfill degree requirements at Loyola University of Chicago.
3. Teacher Certification: The course is taken to meet requirements as a certified teacher.
4. Professional Improvement: The course is taken because of its association with the professional status already enjoyed by the student.
5. Continuing Education: The course is taken because of a desire for further intellectual enrichment.
6. Graduation Prerequisite: The course as a precondition for pursuit of formal graduate course work.
7. Culture: The course is taken for general information purposes. (In practice, there is not much that distinguishes this motivation from Continuing Education.)

While the Division intends a distinct character for each definition, it is observable that mutually exclusive characteristics are not always present. There is more exclusivity among the seven definitions if one

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<sup>16</sup>Donehower, Ibid., p. 60.

accepts that certain of them are oriented toward external motivation, while others suggest more internal motivation.

Length of Time to Complete the Course -- This is the total amount of time required to meet the conditions described in the definition of course completion. At Loyola University this is the same as the analysis of completion rate for an individual student. The manner of storage of this information within the computerized system limits its availability for analysis. Completion rate cannot, for example, be studied in the same manner reported by Evans (Chapter Two, page 57). It can, however, be studied as follows:

1. Completion within one year --
2. Completion within one year and with one extension of six months --
3. Completion within one year and with two extensions --

All the definitions conform to the practice within correspondence instruction, but with one exception. The definition of completion rate adopted by the Division of Correspondence Study of the National University Extension Association (1960) is "the ratio of the completions to the enrollments minus the cancellations."<sup>17</sup> It is understood that the enrollment information, the basis of the definition, is determined for a calendar year. What is expressed in words is also expressed by the Division in the following formula:

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<sup>17</sup>"Report of the Committee on Analyzing and Reporting Statistical Data on Correspondence Enrollments to the NUEA Division on Correspondence Study," April 21, 1960. A mimeographed paper.

$$\text{Completion Rate} = \frac{\text{Completions}}{\text{Enrollments minus Cancellations}}$$

This is a definition adopted for administrative purposes. This fact is evident from the definition that is also given for enrollment: "The administrative process by which a person becomes a correspondence study student in a single course."<sup>18</sup>

In this study completion rate is not being investigated according to the functional definition given above. Individual completion rate is being studied.

### Establishing the Hypotheses

Investigation of the literature indicated the variables to be considered in the construction of the statements. These statements were then developed into the 2 x 2 x n dimensional hypotheses (pages and presented to the professionals currently engaged in correspondence instruction. The respondents were asked to rate the statements in accordance with the instructions. The investigator had no intention of arranging these statements in any order of importance based upon his own prejudices. Such order was avoided to better insure that each statement taken singly could be rated according to its own importance, as judged by the professionals. Thus the biased judgments of the investigator, and the unbiased judgments of the professionals was obtained within the limits of human experience.

The respondents (pages and ) were those persons immediately responsible for correspondence instruction in their respective

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<sup>18</sup>Ibid.



institutions. They were given this questionnaire during the time of the annual meetings of the National University Extension Association, April 6-9, 1974, in Denver, Colorado. Each person was personally contacted. Those questionnaires that were not personally returned during the days of the meeting, were later sent to the investigator. This personal contact undoubtedly explains the fact that the response to the questionnaire was 100%. These professionals came from thirteen states of the United States, and from the District of Columbia. They represent institutions of higher education, the Home Study Institute, and the United States Armed Forces Institute.<sup>19</sup>

The statements were then ranked according to their weighted mean values. For this determination, the following values were used:

Not Very Important (NVI)	= 1
Important (I)	= 2
Very Important (VI)	= 3

Each statement could thus assume a value within the range of 1.00 to 3.00. The tally of these responses and the final determination of the weighted mean value for each statement are presented one page 112. The final listing of these statements in the rank order of their weighted mean values is given on pages 113 and 114. Sixty per cent of the statements received weighted mean scores of 2.00 or higher. The range of scores for the ten statements is 1.50 to 2.76. The five highest ranking statements were selected for analysis.

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<sup>19</sup>Georgia, Illinois, Iowa, Kentucky, Mississippi, Missouri, Nebraska, Nevada, Ohio, Pennsylvania, Tennessee, Utah and Wisconsin.

After the weighted mean scores and the ranks of the ten statements were determined, it was realized that Statements 1 and 3 were the same. This fact was not apparent even to the professionals. No doubt this is explained by the fact that the investigator avoided presenting the statements in any order.

The investigator and his Advisor determined that adding specificity to Statement 3 was proper. Since the study is descriptive and exploratory, the specificity could contribute to the meaning of Statement 1 and to the practical significance of the entire investigation for the Correspondence Study Division of Loyola University of Chicago.<sup>20</sup>

Determination of the final selection of the data to be used from all the available data (Chapter Three) was made on the basis of three observations:

1. The similar investigation conducted by Donehower<sup>21</sup> used total enrollment figures. Moreover, the review of the related literature (Chapter Two) demonstrated that the most studies were reviews of the

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<sup>20</sup>Here as elsewhere in this investigation, the investigator is indebted to the professional judgments and advice of two persons, and to his invaluable professional relationships with many. As Advisor, Dr. Samuel T. Mayo's contribution was as helpful as it was essential; as a professional in correspondence education, Miss McPartlin's practical judgment on the benefit of this specificity was inestimable.

The investigator's personal indebtedness to his academic, professional experiences with Dr. John M. Wozniak, Dean of the School of Education, and Dr. Samuel T. Mayo, Professor, and the Department of Foundations, largely determined the specific courses used in the modification of Statement 3.

<sup>21</sup>Donehower, *Ibid.*, Chapter Two, page 62.

exhaustive supply of enrollment data from years most contiguous to the times of the investigations. It is apparent that practical conclusions that can possibly be drawn from the studies (and from this study) should be based upon recent data, in order to better realize the educational goals discussed in Chapter One, pages one to five.

2. The utility of the descriptive and exploratory information to be derived from the investigations of the statements, for either administrative purposes or purposes of better personal student direction, is best realized by the use of recent information. Data on students who had every opportunity to complete the courses for which they had enrolled and to realize the goals they had given for their enrollment, would be of most use. Thus, it was decided to select recent years wherein this could be accomplished. Studies of students still actively enrolled (students who had not had an opportunity to complete a course within the maximum two-year limit) were not pursued.

3. Value can be realized from a comparison of results for three years, when the conditions described in the second observation are met. Since computerized information was available for recall for the calendar years 1969, 1970, and 1971, and for their total, this three-year period was selected for study. An adjusted student enrollment (Chapter Three, pages 67, 68 and 72.)

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<sup>22</sup>To avoid the difficulty encountered in the simple use of student enrollments as they are described on page 68, the program for selection of data from information systems was modified. A student's data was selected for analysis on the basis of enrollment in the first course, where multiple course enrollments were indicated. This modification provided the adjusted student enrollment.

## Methodology

In 1973 McNamee calculated the chi-square statistics for a  $2 \times 2 \times n$  contingency table. He allowed  $n$  to assume a range of values from two to twelve, and presented chi-square statistics for each contingency table that was produced.<sup>23</sup> The program he developed in the study has been adopted for the analysis of possible associations<sup>24</sup> among variables under investigation in this descriptive and exploratory study. The statements to be examined have been studied for the significance of second order interaction. Three variables are investigated for the statistical significance or non-significance of their associations.

What is important for a discussion of methodology in this study, is that the nominal data investigated do in fact fit the assumptions of the chi-square analysis. The fact that the data taken from computer storage are capable of classification demonstrates the nominal character of the information. Siegel speaks of the nominal or classificatory scale in the following definition:

Measurement at its weakest level exists when numbers or other symbols are used simple to classify an object, person, or characteristic. When numbers or other symbols are used to identify the groups to which various objects

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<sup>23</sup>Raymond J. McNamee, "Robustness of Homogeneity Tests in Parallel-piped Contingency Tables." Doctoral Dissertation (1973) Loyola University of Chicago.

<sup>24</sup>Mayo has observed that "association" is a more appropriate term than "interaction," when there is investigation of relationships among categorical variables. The point is well taken, even though most authors continue to use the terms interchangeably. This study uses the terms synonymously. S.T. Mayo, "Interaction among Categorical Variables," *Educational and Psychological Measurement*, Volume 21, Number 4, (Winter, 1961), p. 839.

belong, these numbers or symbols constitute a nominal or classificatory scale.<sup>25</sup>

In addition to the classificatory nature of the data, the chi-square analysis requires that the data be discrete. In two ways the information to be investigated fits the requirement. There is in the first place no possibility of cross-classification among the principle variables in a particular investigation. The overall variable, rate of completion, for example, cannot also be classified in whole or in part as another variable. Thus, cross-classification does not occur.

In addition, similar cross-classification within the elements of a variable is not possible. For example, it is not possible that for a single course a student can receive two grades. Nor is it possible that a student can be classified as both a completer and a non-completer with respect to that course. Both within and among the variables, therefore, the data to be investigated are discrete, or there is the required mutual exclusivity.

It is therefore possible to avoid the pitfall observed by McNemar. Because of the mutually exclusive character of the data, among and within variables, any three-dimensional array of variables for a single student is not duplicated totally or partially in differing cell entries in the same chi-square design. McNemar discusses this point as the inflation of  $N$ , the total count for the distribution:

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<sup>25</sup>Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company) 1956, p. 22.

A second assumption is that the observations be independent of one another. This assumption is violated when the total of the observed frequencies exceeds the total number of persons in the sample(s). Such an inflation of  $N$  occurs when multiple observations are made on each person and each person is counted more than once.<sup>26</sup>

In order to avoid the difficulty described by McNemar, the use of adjusted student enrollments as the basis for this investigation has been selected. Thus, this study is a cross-sectional view of the more recent, discrete information on correspondence students. The nominal data have been organized to insure a one-to-one-to-one correspondence among and within the three-dimensional descriptions in the statements to be examined.

Another feature of the chi-square technique presented by McNamee deals with the possible occurrence of negative values. Because of the use of certain equations in the derivation of the three-dimensional value, negative values do arise, even though mathematically they might not be anticipated. Referring to the computerized system for derivation of the chi-square values, McNamee states: "The large negative chi-square value is due to the truncating of large numbers when division is done by Fortran IV."<sup>27</sup>

The interaction value, or the chi-square value, is not dependent upon the labels of rows or columns in a contingency table, as McNamee explains. It is because of this fact that the author developed his own technique, the Con Midhe Shift, as a method for avoiding the occurrence of

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<sup>26</sup>Quinn McNemar, Psychological Statistics (New York: John Wiley and Sons, Inc.) 1969 p. 254.

<sup>27</sup>McNamee, *Ibid.*, p. 76.

the negative chi-square value. "It is found that if a problem arises from the condition of the binomial theorem being violated that it could be corrected by reversing all the rows in each subtable."<sup>28</sup> In the practical order what this means is that the order of presentation of the data for computer analysis, on the 2 x 2 face of the contingency table, can be reversed to avoid the determination of the negative values. Thus, for example, the data for 1970 in Statement One were programmed for analysis as follows:

Degree Required (Other) - Level 1:	94	308	114	511
Degree Required - Level 2:	4	1	6	18
Teacher Certification - Level 3:	31	77	21	50
Continuing Education - Level 4:	13	23	21	52

The initial calculation of the chi-square value produced a negative number, -288.18. By the use of McNamee's Con Midhe Shift technique,<sup>29</sup> the data were rearranged as:

Level 1:	308	94	511	114
Level 2:	1	4	18	6
Level 3:	77	31	50	21
Level 4:	23	13	52	21

The resultant chi-square value, 5.08, was both positive and capable of determination as either significant or non-significant. The utility of McNamee's presentation of this Con Midhe Shift will undoubtedly be appreciated by any researcher who uses his three-dimensional technique in practical applications to real data.

A final aspect of McNamee's three-dimensional technique that requires discussion is the function of the zero-valued cell as real data

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<sup>28</sup>Ibid., p. 77.

<sup>29</sup>Ibid., p. 79.

and as part of the mathematical technique. In reality it will be shown that many portions of the tables summarizing data for the different statements in Chapter Five indicate zero-valued cells. These cells indicate facts. In Statement One, for example, it is evident that in reality no students enrolled in either upper or lower division courses in 1969 or 1970, with the motivations of professional improvement or culture. These are historical facts, and are surely subjects of further inquiry. But as zero-valued cells they are not capable of mathematical analysis. They produce any one of three results, as McNamee explains:

In the process of division, zero produces trichotomous results depending on its role. If the dividend is zero and the divisor is not zero, the quotient is zero. If the dividend is not zero and the divisor is zero, the quotient does not exist. If the dividend is zero and the divisor is zero, the quotient is said to be indeterminate.

When the expected values for second order interaction are calculated and zeros exist in the cells of the contingency table any of the above results are possible.<sup>30</sup>

Zero-valued cells in the compiled data for the statements to be analyzed cannot be subjected to the chi-square analysis technique in this  $2 \times 2 \times n$  design. Wherever these occur, therefore, the maximum number of levels of data for analysis is accordingly reduced. Thus, for example, in Statement One, the zero-valued cells in professional improvement, graduate prerequisite, and culture, reduce a  $2 \times 2 \times 7$  design to a  $2 \times 2 \times 4$ . The mathematical and experimental questions this phenomenon can raise could, in themselves, be the subject matter for other dissertations.

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<sup>30</sup>Ibid., pp. 66-67.



## Summary

Definitions of correspondence instruction demonstrate the professionals' attempts to identify the dynamic character of this system of education. Johnson, speaking of learning in general, has called this the phenomenon of creative interaction.

What is referred to in operational definitions and descriptions, can also be examined in the three-dimensional chi-square analysis. The statistical investigation of the phenomenon examines the significance or non-significance of the associations among and between variables contained in specific statements. These variables must meet the conditions of being mutually exclusive, nominal data in a one-to-one-to-one order (with no inflation of  $N$ ).

The variables to be used in the statements are found in this chapter and are defined according to their use. Their specific uses in individual statements, however, are presented in Chapter Five.

McNamee's statistical design provides a service to correspondence instruction. His three-dimensional design for chi-square analysis tests the interaction or association among variables in a way not previously employed in correspondence instruction. Proper use of his design, however, requires an awareness of the nature of the zero-valued cell, and of the application of the Con Midhe Shift when necessary.

Finally, this chapter also discusses the structuring of the statements for evaluation of the final selection of those to be tested. The presentation of the statements to be studied, their results and the conclusions, are given in Chapters Five and Six.

MATERIALS FOR  
ESTABLISHING THE  
HYPOTHESES

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THE QUESTIONNAIRE  
April, 1974

Because you are in charge of the Independent and Correspondence Study Divisions of your Universities, Colleges, or other Institutions, I would appreciate your evaluation and criticism about the ten statements listed below. These statements are intended to be tested statistically for any significant relationships that may exist within and among the variables. In general, the variables to be tested are:

Student Motivations  
Student Backgrounds  
(Academic, Personal,  
and General)  
Course Completion Data

Teacher Motivations  
Teacher Status  
Course Grades (Lessons,  
Final Exam, Final Grade)  
Course Levels (Upper,  
Lower Divisions; Enrollments)

In the space to the left of each statement are the initials:

NVI - Not Very Important

I - Important

VI - Very Important

Would you please circle those initials that you judge best suit the statements as ones worth testing for significance?

- |     |   |    |   |
|-----|---|----|---|
| NVI | I | VI | Student motivations show no relationship to the completion or non-completion of courses considered as either upper or lower division courses.   |
| NVI | I | VI | The completion or non-completion of courses is not related to the student's residence or his/her previous highest academic achievement.   |
| NVI | I | VI | The completion or non-completion of courses is not related to a student's mailing address (location) for Correspondence Study, nor to his/her previous highest academic achievement.  |
| NVI | I | VI | Teacher motivations of either professional dedication to the teaching profession or additional income have no influence on the final grades given to students who are taking the courses for motives of either culture or continuing education.   |
| NVI | I | VI | Whether a Correspondence Study teacher is otherwise actively teaching or retired from the profession is not related to student completion rates or non-completion of courses, or to the fact that the courses are either upper or lower division. |

THE QUESTIONNAIRE  
April, 1974

- NVI I VI Correspondence Study teachers' motivations of either dedication to the teaching profession or additional income are not related to the completion rates or the non-completion of courses taken by students whose motivations are either teacher certification and professional improvement, or culture and continuing education.
- NVI I VI There is no relationship between the completion or non-completion of courses, and the grades students receive, where the same courses are taken from different teachers.
- NVI I VI Student motivations for taking either upper or lower division courses are not related to the completion or non-completion of these courses at either level.
- NVI I VI The levels (upper or lower division) of the courses students take bear no relationship to their motivations of either professional improvement or continuing education, nor to the rates of completion or the non-completion of the courses.
- NVI I VI Whether a Correspondence Study student is a former university or college student, or a non-student, is not related to the age ranges of the student enrollments, nor is it related to their motivations of professional improvement, or of culture and continuing education.

THANK YOU VERY MUCH!

Are there any other variables you would like to see tested?  
Are there any other statements of variables that you would like to make, so the statements could be tested for significant relationships? If so, please write them in the space below. And I would appreciate it if you would please sign your name and your official title and the name of the Institution where you work.

1.

2.

---

Name

---

Title and Institution

EVALUATORS

The list of persons to whom the questionnaire was submitted for evaluation, April 6-9, 1974, is as follows:

Dr. Robert Batchelor  
Assistant Director  
Independent Study through  
Correspondence  
Ohio University  
Athens, Ohio 45701

Miss Vasser Bishop  
Director  
Correspondence Instruction  
The University of Mississippi  
University, Mississippi 38677

Mr. John L. Davies  
Director  
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Iowa City, Iowa 52240

Miss Grace M. Donehower  
Assistant Dean  
General University Extension  
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Salt Lake City, Utah 84110

Mr. John P. Wilson  
Academic Programs  
United States Armed Forces  
Institute  
Madison, Wisconsin 53713

Tally and Determination of Ratings Given the Statements of the Questionnaire

STATEMENT NUMBER	NVI x 1 = $\sum_{wt}$	I x 2 = $\sum_{wt}$	VI x 3 = $\sum_{wt}$	$\sum_{wts}$	N	$M_{wt}$	RANKS	NON-CATEGORIZABLE RESPONSES
1	0 x 1 = 0	//// x 2 = 8	//// x 3 = 39	47	17	2.76	1	0
2	/// x 1 = 3	//// x 2 = 20	/// x 3 = 9	32	16	2.00	6	1
3	//// x 1 = 9	/// x 2 = 12	/ x 3 = 3	24	16	1.50	10	1
4	//// x 1 = 8	/// x 2 = 12	/// x 3 = 9	29	17	1.71	9	0
5	/// x 1 = 5	//// x 2 = 16	//// x 3 = 12	33	17	1.94	7	0
6	/// x 1 = 6	/// x 2 = 14	// x 3 = 6	26	15	1.73	8	2
7	/// x 1 = 3	/// x 2 = 12	/// x 3 = 21	36	16	2.25	4	1
8	// x 1 = 2	//// x 2 = 16	/// x 3 = 21	39	17	2.29	3	0
9	/// x 1 = 3	//// x 2 = 18	/// x 3 = 15	36	17	2.12	5	0
10	0 x 1 = 0	//// x 2 = 20	/// x 3 = 18	38	16	2.38	2	0

The ten statements of the questionnaire were ranked according to their weighted mean scores in the following order:

<u>RANK</u>	<u>STATEMENT</u>	<u>WEIGHTED MEAN</u>
1	Student motivations show no relationship to the completion or non-completion of courses considered as either upper or lower division courses.	2.76
2	Whether a Correspondence Study student is a former university or college student, or a non-student, is not related to the age ranges of the student enrollments, nor is it related to their motivations of professional improvement, or of culture and continuing education.	2.38
3	Student motivations for taking either upper or lower division courses are not related to the completion or non-completion of these courses at either level.	2.29
4	There is no relationship between the completion or non-completion of courses, and the grades students receive where the same courses are taken from different teachers.	
5	The levels (upper or lower divisions) of the courses students take bear no relationship to their motivations of either professional improvement or continuing education, nor to the rates of completion or the non-completion of the courses.	2.12
6	The completion or non-completion of courses is not related to the student's residence or his/her previous highest academic achievement.	2.00
7	Whether a Correspondence Study teacher is otherwise actively teaching or retired from the profession is not related to student completion rates or non-completion of courses, or to the fact that the courses are either upper or lower division.	1.94
8	Correspondence Study teachers' motivations of either dedication to the teaching profession or additional income are not related to the completion rates or the non-completion of courses taken by students whose motivations are either teacher certification and professional improvement, or culture and continuing education.	1.73



Page Two

<u>RANK</u>	<u>STATEMENT</u>	<u>WEIGHTED MEAN</u>
9	Teacher motivations of either professional dedication to the teaching profession or additional income have no influence on the final grades given to students taking courses for motives of either culture or continuing education.	1.71
10	The completion or non-completion of courses is not related to a student's mailing address (location) for Correspondence Study, nor to his/her previous highest academic achievement.	1.50

## CHAPTER FIVE

### EXAMINATION OF TESTED HYPOTHESES

This chapter discusses the results of the examinations of each of the statements presented in Chapter Four. Each statement was tested by the three-dimensional chi-square analysis with the exception of Statement Four. The presentation of the data for this statement demonstrates why the chi-square analysis was reduced to the 2 x 2 dimension.

Because of the function of the zero-valued cell,<sup>1</sup> not every level of every statement was capable of the three-dimensional chi-square analysis. However, each statement, with the exception of Statement Four, did have some characteristics capable of the 2 x 2 x n chi-square analysis.

The statements to be tested follow. Statements 3A and 3B are the revised ones replacing the original Statement Three.<sup>2</sup>

Statement 1: Student motivations show no relationship to the completion or non-completion of courses considered as either upper or lower division courses. (Weighted Mean -- 2.76)

Statement 2: Whether a correspondence study student is a former university student or a non-student is not related to the age range nor to the motivations of professional improvement or of culture and continuing education. (Weighted Mean -- 2.38)

Statement 3A: Student motivations for taking either Education 320 (Philosophy of Education) or Education 230 (Introduction

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<sup>1</sup>Chapter Four, pp. 104-105.

<sup>2</sup>Chapter Four, p. 99.

to Educational Psychology) are not related to completion or non-completion of these courses. (Weighted Mean -- 2.29)

Statement 3b: Student motivations for taking either Education 310 (General History of Education) or Education 220 (American Education) are not related to completion or non-completion of these courses. (Weighted Mean -- 2.29)

Statement 4: There is no relationship between completion and non-completion of courses and the grades students receive, where the same course is taken from different teachers. (Weighted Mean -- 2.25)

Statement 5: The levels (upper or lower division) of the courses students take are not related to their motivations of either professional improvement or continuing education, nor to the rates of completion of the courses. (Weighted Mean -- 2.12)

#### STATEMENT 1

Student motivations show no relationship to the completion or non-completion of courses considered as either upper or lower division courses.

Observations: The data gathered from Information Systems for 1969, 1970, 1971, and for the combination of the three years, are presented on page 117. It is to be noted that the zero-valued cells for professional improvement, graduate prerequisite, and culture, in 1969 and 1970, necessitated the reduction of the original table of  $2 \times 2 \times 7$  to the dimensions,  $2 \times 2 \times 4$ . Thus, to have consistency in the four sets of data, the three-dimensional chi-square analysis studied four levels or motivations.

This data also shows that non-completions generally exceed completions for both upper and lower division courses in the four motivational categories under consideration. This observation lends strength to the

STATEMENT 1 -- Student motivations show no relationship to the completion or non-completion of courses considered as either upper or lower division courses. (Weighted Mean -- 2.76)

<u>Motivations</u>	<u>Courses</u>							
	<u>1969</u>		<u>1970</u>		<u>1971</u>		<u>All Years</u>	
	<u>Upper</u> <u>Division</u>	<u>Lower</u> <u>Division</u>	<u>Upper</u> <u>Division</u>	<u>Lower</u> <u>Division</u>	<u>Upper</u> <u>Division</u>	<u>Lower</u> <u>Division</u>	<u>Upper</u> <u>Division</u>	<u>Lower</u> <u>Division</u>
Degree Required - Other								
Completion	97	313	94	308	75	255	266	876
Non-completion	123	546	114	511	82	317	319	1374
Degree Required								
Completion	1	1	4	1	24	36	29	38
Non-completion	2	8	6	18	16	43	24	69
Teacher Certification								
Completion	21	57	31	77	41	88	93	222
Non-completion	21	50	21	50	26	64	68	164
Professional Improvement								
Completion	0	0	0	0	1	27	1	27
Non-completion	0	0	0	0	8	44	8	44
Graduate Prerequisite								
Completion	0	0	0	0	1	6	1	6
Non-completion	0	0	0	1	1	5	1	6
Continuing Education								
Completion	3	16	13	23	7	26	23	65
Non-completion	9	51	21	52	13	31	43	134
Culture								
Completion	0	0	0	0	0	3	0	3
Non-completion	0	0	0	0	0	4	0	4

presentation of Knox and Sjogren<sup>3</sup> concerning motivation. Motivation to enroll and motivation to continue and carry learning to completion might not always be identical. This observation is more important when it is observed that the three motivations lacking enrollments are generally the internal motivational categories.

Chi-square Analysis: The three-dimensional analysis provided a chi-square value for each level or motive under consideration. The sum of these four values constitutes the chi-square value for each set of data. These values are as follows:

Chi-square Values -- Statement 1

<u>Enrollment Motivation</u>	<u>1969<sup>4</sup></u>	<u>1970<sup>4</sup></u>	<u>1971</u>	<u>Total</u>
Degree Required (Other)	0.19	0.01	0.01	0.09
Degree Required	0.52	4.05	1.22	2.56
Teacher Certification x	1.11	1.01	0.00	1.47
<u>Continuing Education</u>	<u>0.07</u>	<u>0.01</u>	<u>1.22</u>	<u>0.23</u>
Chi-square Values	1.89	5.08	2.45	4.35

At the 0.05 level of significance and for three degrees of freedom,<sup>5</sup>

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<sup>3</sup>Chapter Two, page 54, footnote 71.

<sup>4</sup>Data for 1969 and 1970 were analyzed by the use of the Con Midhe Shift of McNamee. The first determination of the chi-square values for these years were 0.00 and -288.18 respectively. Use of McNamee's technique yielded the results given here.

<sup>5</sup>The degrees of freedom in these analyses are determined as  $(r-1)(c-1)(d-1)$ , where  $r$ ,  $c$ , and  $d$  denote the rows, columns, and levels (the  $n$ -dimension) of the particular study.

the chi-square value of the tested statement, for any set of data, must equal or exceed 7.81 if the null hypothesis is to be rejected. Since none of the experimental values are larger than 7.81, the null hypothesis as stated must be accepted for 1969, 1970, 1971, and for the combination of these three years.

Conclusions and Recommendations: Donehower<sup>6</sup> reported a similar hypothesis in her two-dimensional study. It is most interesting that she rejected her null hypothesis of no relationship between motive and completion or non-completion, at the 0.05 level of significance. Her reported experimental value for chi-square, 51.18, was even significant at the 0.01 level of significance (for 0.01 and three degrees of freedom, chi-square = 11.35).

That there is a relationship between enrollment motivation and course completion or non-completion is evident from Donehower's investigation. Ordinary experience might also regard the relationship as evident. If one assumes the similarity between this investigation and Donehower's two-dimensional one, it is interesting to ask why this added, third dimension (upper and lower division courses) reverses the statistical significance of the null hypothesis.

The Donehower study, common sense, and the apparently plausible statement of Knox and Sjogren raise one question about the results of this investigation -- Why? It would not seem likely that the null hypothesis would have to be accepted with statistical evidence. This

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<sup>6</sup>Donehower, Ibid., pp. 49-50.

investigator has no immediate answer to the question. It is important that the statistical evidence gives pause for reflection, however. Further research concerning what array of variables does indicate significant triple relationships is strongly suggested. Otherwise, one conclusion to be drawn (assuming, of course, the validity of common sense) is why should there be courses offered at any level for the motivations that are described.

On the theoretical level an investigation into the factors that will substantiate or disprove the observation of Knox and Sjogren is recommended. Does the statistical truth of this null hypothesis have a relationship to possible differences that may exist between motivation to enroll and motivation to carry a course to completion or non-completion?

On a more practical level, this Division can investigate why it is true that there are usually more non-completions than completions in the four motivational categories that have been studied. To what extent are the enrollment motivations related to this phenomenon? Is this due to the academic nature of the courses offered in the Correspondence Study Division? Is it due to the fact that it takes "more" to get through a correspondence course than it does to enroll in it? These are questions that suggest further investigation.

It is also interesting to note that there is a very large number of enrollments in courses to meet degree requirements at other institutions. The comparative number of similar enrollments to complete degree requirements at Loyola University is obvious in its relative infrequency! Does this Division have the support of deans, department heads, and faculty?

Finally, the very real lack of motivational data in the categories

of professional improvement, continuing education, and culture is a recommendation in itself. More courses could be developed that appeal to such internal enrollment motivations. The bulletins of courses of the Correspondence Study Division show that the Division does present subjects of academic quality that have appeal for external, academic reasons. But today, with the burgeoning work in continuing education, this Division could consider courses in this area as well. Continuing education, in this context, has reference to the differentiation between internal and external enrollment motivations, as discussed in Chapter Four, page 95.

#### STATEMENT 2

Whether a correspondence study student is a former university student or a non-student is not related to the age range nor to the motivations of professional improvement or of culture and continuing education.

Observations: The data gathered from Information Systems for 1969, 1970, 1971 and for the combination of the three years, are presented on page 122. It is to be noted that the abundance of zero-valued cells throughout this entire table in two dimensions (professional improvement and former student) has limited the application of the three-dimensional analysis. Only two sets of data were capable of study in the  $2 \times 2 \times n$  design. The data for 1971, and for the combination of all years, each in the age ranges 20-24, 25-29, and 30-34, will be analyzed by the three-dimensional chi-square technique. These sets of data are contained in the blocked section on page 122.

It is noted that non-students are clearly in the majority as the class enrolling in courses for reasons of culture and continuing educa-



Statement 2 -- Whether a correspondence study student is a former university student or a non-student is not related to the age ranges nor to motivations of professional improvement (PI) or of culture and continuing education (CCI).  
(Weighted Mean -- 2.38)

Age Ranges	Motivations							
	1969		1970		1971		All Years	
	PI	CCI	PI	CCI	PI	CCI	PI	CCI
<b>55-59</b>								
Former Student	0	1	0	0	0	0	0	1
Non-student	0	18	0	15	6	17	6	50
<b>50-54</b>								
Former Student	0	0	0	0	0	0	0	0
Non-student	0	7	0	13	4	7	4	27
<b>45-49</b>								
Former Student	0	0	0	0	0	0	0	0
Non-student	0	5	0	8	10	8	10	21
<b>40-44</b>								
Former Student	0	0	0	0	0	0	0	0
Non-student	0	7	0	15	7	4	7	26
<b>35-39</b>								
Former Student	0	0	0	0	0	0	0	0
Non-student	0	7	0	8	4	3	4	18
<b>30-34</b>								
Former Student	0	0	0	0	1	2	1	2
Non-student	0	6	0	3	9	8	9	17
<b>25-29</b>								
Former Student	0	2	0	1	1	2	1	5
Non-student	0	4	0	12	10	14	10	30
<b>20-24</b>								
Former Student	0	0	0	2	3	1	3	3
Non-student	0	16	0	18	12	12	12	46
<b>15-19</b>								
Former Student	0	0	0	0	0	0	0	0
Non-student	0	2	0	3	0	0	0	5

tion. Why are there so very few former students who enroll? Is it because a former student, examining the bulletins of courses, would almost spontaneously conclude there are no subjects offered for "just self-improvement," while a non-student might want to "give it a try"? If this is an acceptable fact, then a further study of course completion and non-completion would be valuable.

On the other hand it is possible that a former student might classify himself as a non-student, understanding that he is not a former student of correspondence study, or of the Correspondence Study Division of Loyola University, or of any higher academic institution in the very recent past (or at the time of his enrollment). This category is generally intended to represent the former student of a higher academic institution. This fact may not be too clear to the enrollee, however.

Chi-square Analysis: The three-dimensional analysis yielded a value for the two sets of data already mentioned. The values are as follows:

Chi-square Values -- Statement 2

<u>Age Ranges</u>	<u>1971</u>	<u>All Years</u>
30-34	0.46	0.14
25-29	0.11	0.68
<u>20-24</u>	<u>0.76</u>	<u>1.17</u>
Chi-square Values	1.33	1.99

At the 0.05 level of significance and for two degrees of freedom, the chi-square value of the tested statement for both 1971 and for all years, must equal or exceed 5.99. Since neither of the experimental values is larger than this value, the null hypothesis as stated with the

limitation of the age range from 20 to 34, and for the year 1971 and the total of all years, must be accepted.

Though there was the lack of information on professional improvement and former students throughout the table on page 122, it is possible to examine a null hypothesis concerning all non-students who enroll for the purpose of culture and continuing education. This hypothesis, for 1969, 1970, and 1971, would read:

Throughout the three years of enrollments there is no relationship between the age ranges of the enrolling non-students and the years of their enrollments.

One assumption underlying this hypothesis must be explained. Chi-square analysis assumes the independence of the attributes or events under investigation. In this hypothesis, the assumption is that independence exists between the years and the age ranges. While it is possible that a non-student could enroll in more than one calendar year, there is no known reason for concluding that such repeated enrollment violates the independence required for analysis. Since no causal association of such possible re-enrollments can be established, this investigator is assuming that no dependence<sup>7</sup> does exist among the years of enrollment. Thus, the 3 x 9

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<sup>7</sup>Clarification of the meaning of independent attributes is given by Lewis and Burke:

The term independence has reference to individual or single events. In contrast, the hypothesis of independence that is tested by means of chi-square specifies a lack of relationship (that is, an absence of interaction) between the variates represented in a contingency table. The events that occur to yield the frequencies of a contingency table must be mutually independent even though the variates are related.

Don Lewis and C.J. Burke, "The Use and Misuse of the Chi-Square Test," Psychological Bulletin, Volume 46, Number 6 (1949), p. 433.

chi-square analysis gave a value ( $df = 16$ ) of 86.64. The published value for this array is 26.3 at the 0.05 level of significance. Thus, the null hypothesis must be rejected. There is some relationship between the age-ranges of the students who enrolled as non-students, and the years of the enrollments.

Conclusions and Recommendations: Though the original statement was statistically non-significant at the 0.05 level (and therefore the null hypothesis could not be rejected), it is interesting to observe that the second hypothesis ( $3 \times 9$ ) had to be rejected at the same level. It is possible that this is explained by the fact that the largest age-range (20-34 years) in which there is noticeable appeal of courses for reasons of professional improvement or of culture and continuing education is a very limited part of the entire table of data! Is it wrong to assume that more highly academic courses will appeal to this age group for non-academic reasons, because of the desire of such persons "to know"? An exploration of the courses in which these persons enrolled for these motives would be an incipient indication of the validity of this assumption.

Though the original statement revealed no significant associations, it is worthy of further investigation to determine why persons in a rather limited age-range (20-34 years) perceive academic courses to be worthy of pursuit for reasons of culture and continuing education, or for professional improvement. Culture and continuing education especially (and to a more limited degree, professional improvement) would seem to imply that there is no interest in receiving a grade for the work accomplished to completion. It is suggested that further course data be gathered on these persons for future analysis. Finally, it is suggested that some

STATEMENT 3A -- Student motivations for taking either Education 320 (Philosophy of Education) or Education 230 (Introduction to Educational Psychology) are not related to completion or non-completion of these courses. (Weighted Mean -- 2.29)

Motivations	Upper (320) and Lower (230) Division Education Courses							
	1969		1970		1971		All Years	
	Education 320	Education 230	Education 320	Education 230	Education 320	Education 230	Education 320	Education 230
<b>Degree Required - Other</b>								
Completion	8	3	7	4	4	10	19	17
Non-completion	12	12	11	15	6	5	29	32
<b>Degree Required</b>								
Completion	0	0	1	0	1	0	2	0
Non-completion	2	1	1	0	1	0	4	1
<b>Teacher Certification</b>								
Completion	4	5	12	9	11	5	27	19
Non-completion	4	6	5	6	14	1	23	13
<b>Professional Improvement</b>								
Completion	0	0	0	0	0	0	0	0
Non-completion	0	0	0	0	1	1	1	1
<b>Graduate Prerequisite</b>								
Completion	0	0	0	0	0	0	0	0
Non-completion	0	0	0	0	0	0	0	0
<b>Continuing Education</b>								
Completion	0	0	1	0	1	0	2	0
Non-completion	0	1	0	1	0	1	0	3
<b>Culture</b>								
Completion	0	0	0	0	0	0	0	0
Non-completion	0	0	0	0	0	0	0	0

determination be made of the enrolling student's clear understanding of the definitions of enrollment motivations.

### STATEMENT 3A

Student motivations for taking either Education 320 (Philosophy of Education) or Education 210 (Introduction to Educational Psychology) are not related to completion or non-completion of these courses.

Observations: This is the first of two statements already referred to in Chapter Four, page 99. This statement and Statement 3B represent the studies of specific application of the more general information contained in Statement 1. Data for Statement 3A are found on page 126.

It is evident from this set of data, as from the previous ones, that the original 2 x 2 x 7 study had to be reduced to a three-dimensional 2 x 2 x 2 analysis. Zero-valued cells in both Statements 3A and 3B precluded the use of five of the motivational categories. Degree Required -- (Other), and Teacher Certification are the only categories meeting the requirements for the use of McNamee's three-dimensional analysis of either statement.

That statistically useful information is found in only these two categories is interesting. Either motivation can be regarded as a "have to" reason. The course itself, specifically, or as suited to a given area requirement, fits a given need. It "has to be" taken for either reason -- to get a degree, or to get a certificate.

It should also be noted from the data on page 126 that, in general, there is a larger proportion of completions of Education 320 when taken for teacher certification. And in general it is observable that more persons enroll in Education 230 to obtain a degree than to obtain teacher

certification. Nonetheless, there are generally more non-completions than completions in the first motivational category.

Finally, it is somewhat obvious that there are reciprocal profiles of completion to non-completion in the two categories. In general, more non-completions of either course are found in the category of persons enrolling to meet a degree requirement. Completions, on the other hand, predominate among those enrolling to acquire teacher certification. This lends more strength to the observation that this latter motivational category may possess more "have to" quality.

Chi-square Analysis: The three dimensional analysis yielded the following values:

Chi-square Values -- Statement 3A

<u>Enrollment Motivation</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>Total</u>
Degree Required (Other)	0.17	0.07	0.11	0.22
<u>Teacher Certification</u>	<u>0.26</u>	<u>0.07</u>	<u>0.16</u>	<u>0.26</u>
Chi-square Values	0.43	0.14	0.27	0.48

At the 0.05 level of significance for one degree of freedom, the experimental chi-square value would have to equal or exceed 3.84, in order to reject the null hypothesis. Thus, the reported experimental values for 1969, 1970, 1971, and for the combination of all these years, necessitates the acceptance of the Statement that has been made.

Conclusions and Recommendations: While it may be somewhat surprising to find that no relationships do exist as described, this is perhaps explained by reference to the observations already made concerning the inner variations within the data presented on page 126. Statistical in-

fluences in one motivational category are offset by reciprocal influences in the other.

It is still the "hunch" of this investigator that there are significant differences, however. Common sense attitudes toward the descriptive facts do not necessarily have to be rejected because of the statistical findings. Rather, the discrepancy between statistical evidence and common sense in this investigation suggests the following:

(1) What has been observed on page 127 about enrollment discrepancies for Education 320 and Education 230 can lead to further investigation of the possible relationship of this phenomenon to the presentation of Knox and Sjogren concerning possible differences between motivation to enroll and motivation to continue and complete a course;

(2) What has been observed on page 126 concerning the variations of completions and non-completions within the data on page 127 could also be related to the presentation of Knox and Sjogren.

The availability of other testable hypotheses is, perhaps, only defined by the imagination of the investigator. For example: Are there upper/lower division courses that in general require "only" an enrollment motivation to insure completion? Are there others wherein the opposite is true? Conversely, are there courses that nearly demand an extension of, a growth of, or a change from the initial enrollment motivation? If any of these statements are significant, it is well for the instructor to know this. This can determine the relationship that is set up between the student and the instructor. It is just as important for the student to know this, if it is true. This will prevent unnecessary discouragement and the feeling of not having been told all the facts at enrollment time.



Would it, for example, be inappropriate to add to the course description: "Students who enroll in this course for reasons of \_\_\_\_\_ are more likely to successfully complete the work; students who enroll for reasons of \_\_\_\_\_ are recommended to consider alternate enrollment in course \_\_\_\_\_."

Another and final suggestion is that a similar kind of motivational investigation can be made into any course at any level. The resultant work that can be done in course construction and course description should be obvious. Experts in curriculum and course construction should always be cognizant of the work of Benjamin Bloom<sup>8</sup> and his associates. The relationships of the kind of investigation suggested here, to the realization of educational objectives in the cognitive and affective domains, would indeed be very fruitful areas of study.

#### STATEMENT 3B

Student motivations for taking either Education 310 (General History of Education) or Education 220 (American Education) are not related to completion or non-completion of these courses.

Observations: The reader is referred to the prefatory remarks about Statement 3A. What is observed there is largely applicable to

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<sup>8</sup>Benjamin S. Bloom, (editor), Taxonomy of Educational Objectives, Handbook I: Cognitive Domain (New York: David McKay Company, Inc.) 1956. and

David R. Kratwohl and Benjamin S. Bloom, and Bertram B. Masia, Taxonomy of Educational Objectives, Handbook II: Affective Domain (New York: David McKay Company, Inc.) 1964.

Statement 3B as well. There has been the same reduction of the  $2 \times 2 \times 7$  table to  $2 \times 2 \times 2$ , with one degree of freedom. The data for Statement 3B are found on page 132.

While this statement deals with the same motivational categories and the same dichotomy of completion and non-completion, only the specific courses have changed. Here Education 310 and 220 are studied. It should be observed that although there is this difference, the generic quality of this dimension is not changed. There is both an upper and a lower division course, and they are both in the same field as the courses studied in Statement 3A.

It is important to remember these observations because the following comparisons with the information in Statement 3A are observable:

1. In the category of Teacher Certification, there is a larger proportion of non-completions for Education 310. There was a larger proportion of completions for Education 320.
2. More persons enroll for degree requirements in Education 220 than in Education 310. The same observation is true of Education 320 of Education 320 and Education 230 in Statement 3A.
3. More persons enroll, generally, in Education 220 than in Education 310 for reasons of teacher certification. In general, the opposite is true (for Education 320 and Education 230) in Statement 3A.
4. In general, there are more non-completions than completions, in both motivational categories, and for both courses. This is more obvious, however, in Statement 3B than 3A.
5. Overall, there are more enrollments in the courses described in Statement 3A than in 3B.

STATEMENT 3B -- Student motivations for taking either Education 310 (General History of Education) or Education 220 (American Education) are not related to completion or non-completion of these courses. (Weighted Mean -- 2.29)

Motivations	Upper (310) and Lower (220) Division Education Courses							
	1969		1970		1971		All Years	
	Education 310	Education 220	Education 310	Education 220	Education 310	Education 220	Education 310	Education 220
Degree Required - Other								
Completion	5	7	6	6	1	4	12	17
Non-completion	2	10	4	5	1	4	7	19
Degree Required								
Completion	0	0	0	0	0	0	0	0
Non-completion	0	1	0	0	0	0	0	1
Teacher Certification								
Completion	2	4	1	4	3	3	6	11
Non-completion	3	5	4	5	1	5	8	15
Professional Improvement								
Completion	0	0	0	0	0	0	0	0
Non-completion	0	0	0	0	0	0	0	0
Graduation Prerequisite								
Completion	0	0	0	0	0	0	0	0
Non-completion	0	0	0	0	0	0	0	0
Continuing Education								
Completion	0	0	0	0	0	0	0	1
Non-completion	0	0	0	0	0	0	0	1
Culture								
Completion	0	0	0	0	0	0	0	0
Non-completion	0	0	0	0	0	0	0	0

6. Realizing that there are more enrollments for teacher certification in Statement 3A than 3B, nonetheless, it is seen that there are more non-completions in this motivational category for Statement 3B than 3A.

Chi-square Analysis: The three-dimensional analysis yielded the following values:

Chi-square Values -- Statement 3B

<u>Enrollment Motivation</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>Total</u>
Degree Required (Other)	0.38	0.29	0.39	0.21
<u>Teacher Certification</u>	<u>0.58</u>	<u>0.51</u>	<u>0.22</u>	<u>0.29</u>
Chi-square Values	0.96	0.80	0.61	0.50

At the 0.05 level of significance for one degree of freedom, the experimental chi-square value would have to equal or exceed 3.84, if the null hypothesis is to be rejected. The reported values for 1969, 1970, 1971, and for the combination of these years, necessitates the acceptance of Statement 3B.

It is interesting to note one fact here, concerning the chi-square values for each Statement. Those for Statement 3B are larger in each study, than those for Statement 3A. Whether and to what extent this may be a reflection of the total enrollment discrepancies in these two statements is open to investigation. Nonetheless, it must be noted that there are the following overall enrollments in each statement:

Total Enrollments in Statements 3A and 3B

<u>Statement</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>Total</u>
3A	54	69	56	179
3B	38	35	22	95

In this study, any further comparison of Statements 3A and 3B will not be made. It is suggested, however, that there is area here for further investigation.

Conclusions and Recommendations: Further investigations based upon the six observations already made (pages 132, 133) are recommended. It should be noted again, however, that such studies need not be limited to the subject area that has been presented in this work.

The construction of similar investigations in other subject areas can clearly be of administrative benefit. The areas that show highest enrollment, highest levels of completion or non-completion, the most frequent motivational appeals -- these and many other avenues of research are open and probably suffer only the limitations of the imagination of the investigator.

STATEMENT 4

There is no relationship between completion and non-completion of courses and the grades students receive, where the same course is taken from different teachers.

Observations: This hypothesis requires some commentary related to the available data for analysis that are presented on page 135. It is evident that the dimension of non-completion is not a reality where grades of A, B, C, D, or F have been given. It is equally evident that completion is not a reality where W and W\_Inc are earned. Thus, in reality this investigation reduces itself to a two-dimensional chi-square

analysis where three investigations are possible;

- A. There is no significant difference between the completion and non-completion of a course that is taught by different teachers;
- B. There is no significant difference between the passing grades (A and B) earned for a course as taught by different teachers;
- C. There is no significant difference between the grades received (A, B, and W) for a course as taught by different teachers.

Statement 4 -- There is no relationship between completion and non-completion of courses and the grades students receive, where the same course is taken from different teachers. (Weighted Mean -- 2.25)

Grades	1969 Teacher X	1971 Teacher Y
A		
Completion	7	9
Non-completion	0	0
B		
Completion	10	6
Non-completion	0	0
C		
Completion	0	0
Non-completion	0	0
D		
Completion	0	0
Non-completion	0	0
F		
Completion	0	0
Non-completion	0	0
W		
Completion	0	0
Non-completion	52	29
W-Inc		
Completion	0	0
Non-completion	2	0

In the third of these statements there is evidently an extension of the meaning of the term, grade. Here W indicates withdrawal from the course before completion. W is regarded, however, as a grade in the sense that like A or B it is a record of student performance.

A second important observation must be made that is related to the entire investigation of Statement 4. In the Correspondence Study Division of Loyola University of Chicago in either 1969 or 1970 or 1971, there was only one course that was taught by different teachers. This was an upper division course. Moreover, this course was not taught simultaneously by them. One teacher resigned and another assumed responsibilities.

In order to avoid the contamination of the data on grades, the calendar year enrollments for Teacher X had to be selected so they would not be the students who began under this person and carried through to completion or non-completion under Teacher Y. This contamination could be avoided by using the calendar year enrollments as indicated.

A minor point that can be observed in the data is that the Teacher X and Teacher Y dichotomy is also a male-female dichotomy. There was no intention to use this characteristic as part of the investigation.

Chi-square Analysis: The chi-square analysis for each of the three hypotheses presented is given as follows:

Chi-square Values -- Statement 4 (A,B,C)

<u>Statement</u>	<u>Experimental Value</u>
A	28.75 (df = 1)
B	1.25 (df = 1)
C	100.69 (df = 2)

For the 0.05 level of significance, the chi-square value of the experimental data must equal or exceed 3.84 for Statements A and B, and 5.99 for Statement C. It is evident therefore, that the null hypotheses of Statements A and C are rejected. There is significant difference when a study of completions and non-completions is made, and when a study of grades (record of student performance) is made. There is no significance in the earning of A's or B's under Teacher X or Y. It should be evident, therefore, that the controlling factor in these analyses is the large number of non-completions considered either as strict non-completions, or as a record of student performance.

Conclusions and Recommendations: It is obvious that some other array of data will have to be considered before such a hypothesis (or group of hypotheses, as in this particular investigation) is considered amenable to a three-dimensional study. That there is descriptive and exploratory value to such a study in two-dimensions, however, is evident.

Further study could explore the following questions:

1. Is there an explanation for the much larger number of non-completions under Teacher X?
2. Are the non-completers due to the influences of Teacher X and Teacher Y?
3. In the perception of the enrollees, is non-completion viewed negatively or positively?
4. What were the enrollment motivations of the students?

It is a caution to be observed that no judgments concerning teachers or students be made without further evidence. It is to be remembered that the course under investigation was an upper division one. Further, it represented a special course, even at this level. It was



not a course related to learning about a generalized subject. For example, a person may enroll in a course in Child Psychology to learn how to deal with a three-year old son. Pursuing the course to completion is not so important as learning what one wants to know. Is it wrong to assume that when such a student has learned what he wants to know, and discontinues the course, that he is a non-completer and failure? Such an example only emphasizes once again the observations of Knox and Sjogren.

This investigator makes no judgments based upon the experimental evidence of this study. He only points out to the professionals in correspondence instruction who may find this kind of study useful (whether it be in two, three, or more dimensions), that the experimental results have their primary benefit in the subsequent questions that can be raised.

The conclusions and recommendations derived from the investigation of Statement 4 can be expressed as follows:

DON'T draw conclusions too hastily!

DO feel free to be led to further inquiry!

Statistical information and experimental results are means for making informed decisions; they are not administrative weaponry. The most valuable of all arsenals is a body of reliable data.

#### STATEMENT 5

The levels (upper or lower division) of the courses students take are not related to their motivations of either professional improvement or continuing education, nor to the rates of completion of the courses.

STATEMENT 5 -- The levels (upper or lower division) of the courses students take are not related to their motivations of either professional improvement or continuing education, nor to the rates of completion of the courses. (Weighted Mean -- 2.12)

<u>Rates of Completion</u>	<u>Courses</u>							
	<u>1969</u>		<u>1970</u>		<u>1971</u>		<u>All Years</u>	
	<u>Upper Division</u>	<u>Lower Division</u>	<u>Upper Division</u>	<u>Lower Division</u>	<u>Upper Division</u>	<u>Lower Division</u>	<u>Upper Division</u>	<u>Lower Division</u>
<b>One Calendar Year</b>								
Professional Improvement	0	0	0	0	2	33	2	33
Continuing Education	2	8	10	14	2	19	14	41
<b>One Calendar Year and One Extension</b>								
Professional Improvement	0	0	0	0	5	14	5	14
Continuing Education	4	46	18	42	10	24	32	112
<b>One Calendar Year and Two Extensions</b>								
Professional Improvement	0	0	0	0	1	19	1	19
Continuing Education	5	7	5	14	3	10	13	31

Observations: Because of the lack of data on the motive of professional improvement, the three-dimensional chi-square analysis was not possible for 1969 and 1970. The three-dimensional study was therefore conducted on data for 1971, and for all the years combined. The presentation of the data for analysis is found on page 139.

Chi-square Analysis: The data for 1971 and for the total of all years in combination (1969, 1970, and 1971) yielded the chi-square values given below. For two degrees of freedom, the acceptable value of chi-square at the 0.05 level of significance is 5.99.

Chi-square Values -- Statement 5

<u>Rates of Completion</u>	<u>1971</u>	<u>Total</u>
One Calendar Year	0.00	0.98
One Calendar Year and One Extension	0.40	4.97
<u>One Calendar Year and Two Extensions</u>	<u>1.02</u>	<u>1.16</u>
Chi-square Values	1.42	7.11

While the data for 1971 did not yield a chi-square value that would permit rejection of the null statement, it is most noteworthy that the data for the combination of 1969, 1970, and 1971 leads to a rejection of the null statement. There is some association among the three variables under consideration.

Conclusions and Recommendations: The experimental results of this investigation demonstrate another useful feature of the three-dimensional analysis. Each level of the n-dimensional face of this analysis contributes in an additive manner, to the chi-square value of

the total array. Thus, the order of contribution in this Statement can be seen, in decreasing order, as One Year and One Extension, One Year and Two Extensions, and One Year. The notably large contribution of the first of these completion rates to the total chi-square can generate a very valid administrative consideration: Should the policy of minimum allowed time between date of enrollment and date of completion be changed? If one understands the limited nature of this investigation -- it deals only with two motivational categories -- he must give serious consideration to this question. It would appear that for those courses that have appeal for enrollment reasons of professional improvement and continuing education, the policy on time limit should be altered.

Further investigation should be made into the numbers of persons who complete within the given rates of time. Before a decision at the level of overall policy is made, it should be carefully determined whether the results of this investigation are due principally to the selection of the two motivational categories.

Donehower<sup>9</sup> studied similar hypotheses in her two-dimensional chi-square analysis. In two of her statements she examined the association of reason for enrollment with completion rate and length of time to complete.<sup>10</sup> In both instances there was association. The null

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<sup>9</sup>Donehower, *Ibid.*, pp. 45-41, 71, 75.

<sup>10</sup>Completion rate was considered as either completion or non-completion. Length of time to complete was computed as the number of days taken to complete a course, computed from the day the first lesson is submitted.

hypothesis had to be rejected at the 0.01 level, as well at the 0.05 level of significance. This study would, then, support her experimental results.

But perhaps the most interesting experimental result of the investigation of this Statement is found in the comparison of the significance of these results for all years combined, with the results of the investigation of Statement 1 for all years combined. It is recommended that in-depth inquiry into this discrepancy be made in future investigations. That there is no recognizable association between completion and non-completion, upper and lower division courses, and the enrollment motivations is indeed interesting, when it is also acceptable that there is some association between completion rates throughout these same course levels, and the motives of professional improvement and continuing education.

Perhaps the results of this analysis, more than any other, demonstrate the utility of the three-dimensional chi-square technique in determining the descriptions and explorations that can be made in the area of correspondence instruction.

## CHAPTER SIX

### CONCLUSIONS

Chapter Five, Examination of Tested Hypotheses, contains the conclusions and recommendations related to the investigation of each of the Statements in this study. This chapter presents conclusions applicable to the institution whose data has served as the source of these investigations -- The Correspondence Study Division, Loyola University of Chicago.

This study has been descriptive and exploratory throughout the investigations related to each statement. Statistically analyzed statements have provided information that can serve as a basis for further questions and investigations, for informed decision-making that is the responsibility of those charged with the academic performance of the Division.

Those variables that have served as the data for this investigation have been evaluated by professionals in correspondence instruction as the important ones at the current time. Describing and exploring the relationships or associations among these variables has been effected by the use of three-dimensional statements evaluated for their importance by professionals in correspondence instruction in the United States, and by the application of three-dimensional chi-square analysis. The variables that have served as data in these statements are:

Student Motivation  
 Course Completion and Non-completion  
 Course Levels  
 Student Status  
 Student Age Ranges  
 Specific Courses (Statements 3A, 3B)  
 Course Grades  
 Teachers

Each statement in this investigation has been examined in the order of its importance according to the evaluation given it by the professionals in correspondence instruction. Thus, the order of investigation of the statements, as well as the investigator's construction and presentation of them to professionals for evaluation, has been guided by a neutrality that is prerequisite to unbiased exploration. The investigator has tried to be guided in his recommendations and conclusions by this same neutrality toward the available evidence. It is interesting to view this neutral attitude as analogous to the contingency table upon which chi-square analysis itself is based:

		Outcome of <u>Null Hypothesis</u>	
		Expected	Unexpected
Further Inquiry	Why?		
	Why Not?		

The descriptive nature of this investigation is found in the presentation of the statistical analysis of the statements that have been investigated. A summary of the data for all the statements of Chapter Five is given on page 145.

Chi-square Values of the Tested Statements

<u>STATEMENT</u> <u>Dimensions</u>	<u>Experimental Chi-square</u>				<u>Chi-square</u> <u>(0.05, df =)</u>	<u>Null Hypothesis</u>	
	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>All Years</u>		<u>Accepted</u>	<u>Rejected</u>
1 (2x2x4)	1.89	5.08	2.45	4.35	7.81 (df=3)	X	
2 (2x2x3)	---	---	1.33	1.99	5.99 (df=2)	X	
(3x9)			86.64		26.30 (df=16)		X
3A (2x2x2)	0.43	0.14	0.27	0.48	3.84 (df=1)	X	
3B (2x2x2)	0.96	0.80	0.61	0.50	3.84 (df=1)	X	
4A (2x2)			28.75		3.84 (df=1)		X
4B (2x2)			1.25		3.84 (df=1)	X	
4C (2x2)			100.69		5.99 (df=2)		X
5 (2x2x3)	---	---	1.42	7.11	5.99 (df=2)		X



The exploratory nature of this investigation, on the other hand, is appropriately summarized in the above contingency table's presentation of the unbiased attitude toward research. Thus, regardless of the outcome of the given investigation (and irrespective of the investigator's predicted results or hoped-for outcomes), the result can be placed in any of four categories that will generate further questions that can be pursued in future research. The model given above is intended to be a presentation of this investigator's attitude toward the statements that have been studied.

Recommendations and conclusions in this chapter will be divided into those based upon observations of the presentations of data that have served as the basis of chi-square analysis, and those based upon the experimental chi-square analysis itself.

DATA: The presentation of the basic data<sup>1</sup> indicates that the following observations are appropriate. The data themselves, even before chi-square analysis, assist greatly in realizing the goal of the North Central Association's Commission on Institutions of Higher Education -- a goal this investigator has subscribed to: "There will be a re-ordering of priorities and significant changes in the kinds of data to be emphasized."<sup>2</sup> As Childs (1962) has remarked, too: "We need research

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<sup>1</sup>Chapter Five, pages 117, 122, 126, 132, 135 and 139.

<sup>2</sup>Chapter One, page 1, footnote 3.

to help us improve our procedures."<sup>3</sup> The following recommendations and conclusions are therefore appropriate:

1. There should be more course construction to correspond to internal enrollment motivations of professional improvement, culture, and continuing education.

2. Similar consideration should be given to courses that will serve as graduate prerequisite, and as meeting degree requirement at Loyola University. That there are courses already available for these reasons is somewhat evident. Courses that meet degree requirement in other institutions very likely could meet the same requirements at Loyola University as well. Thus, this recommendation carries with it the question already posed in Chapter Five, regarding the academic support given to this Division from other academic administrators, department heads and faculty.

3. Course development should be considered for appeal to enrollees in other age ranges than the categories, 20-24, 25-29, and 30-34. The Division should not neglect these persons, but it should also try to appeal to persons over 35 particularly. Development of continuing education outside the conventional classroom situation is encouraged here.

4. Studies of those departments that contribute to the course offerings of the Correspondence Study Division should be made: What enrollment motivations (internal and external) generally attract enrollments to these departments? What additional courses could be developed

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<sup>3</sup>Chapter One, page 3, footnote 6.

in accordance with the first and second recommendations above?

5. Where it is appropriate to do so, individual teacher effectiveness within this method of instruction should be studied. The necessary experimental controls and the appropriate use of the experimental results is presumed.

6. The Correspondence Study Division should seriously consider more in-depth and broader study of its policy on the time limit allowed for completion of a course. This investigator regards this as perhaps one of the most significant findings of this study. Results of the chi-square analysis of Statement 5 do confirm what is observable in the data itself. Statement 5 is a limited investigation defined by the study of only two enrollment motivations. Exploration of this same question with other enrollment motivations is essential before any final decision is made to accept or alter present policy.

Chi-Square Analysis: Recommendations and conclusions that are based upon the statistical findings of this study are as follows:

1. The relationship of course completions to enrollment motivations and course levels requires further investigation. More research will assist in answering why this study found those results reported in Statements 1 and 5. Such research is even more required because of the research results reported by Donehower, for example.

2. Course completion and non-completion should be studied in more depth, as it is related to enrollment motivation and motivation to pursue work to completion. Such research will contribute not only to the effectiveness of the Correspondence Study Division of Loyola University of Chicago. It will be a contribution to a perennial problem

of professionals in correspondence instruction. Who stays, and why, is an important part of the vitality of correspondence instruction.

3. Enrollment motivation, and motivation to continue a course to completion should be thoroughly studied in relation to the traditional categories of the completer and the non-completer. Non-completion of a course is not to be equated with academic failure, without solid evidence for the equation. Discovery of the positive motivations of non-completers will contribute valuable information to the construction of courses, course descriptions in official bulletins, and the pre-enrollment guidance that can be incorporated in such bulletins.

4. It is again emphasized in this category of recommendations and conclusions, that item 6 in the previous section of this chapter be considered. Change in policy (should the evidence so warrant this) could lead to shifts in enrollment and completion patterns, for example. Isn't it possible that there are persons who would enroll for courses if they could know more time were allowed for them? More time, allowed by policy, does not place a student in the position of feeling it necessary to give reasons why he needs more time to complete a course.

In Chapter One this investigator made another claim for the descriptive and exploratory study, and for the hypotheses underlying such investigation. He stated there that the hypothesis should be as heuristic as the conceptual model. Hypotheses should try to lead to better insights into problems. They generate further research so that the collation of specific research findings assists in the formulation of general theory.

This descriptive and exploratory study of the Correspondence Study

Division of Loyola University of Chicago has attempted to achieve that purpose. The data used have been taken in their entirety from three separate years of adjusted student enrollments. The statements tested have broader scope than the confines of the given institution. The conclusions based upon observation of the data and chi-square analysis are certainly limited to the institution under consideration. But the nature of the hypotheses, their evaluation by professionals in correspondence instruction, and their applicability to larger populations by the use of other techniques, demonstrate that this kind of investigation has heuristic characteristics.

These recommendations and conclusions have shown that this study can generate further research that is useful to particular institutions, and that is even more useful to correspondence instruction itself.

This is tantamount to the neutral, though inquiring attitude that is required if one takes Childs' comment seriously. IF the brain doesn't give a damn --

WHY?

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APPROVAL SHEET

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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

May 19, 1975  
Date

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Director's Signature