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ABSTRACT

Research provided a comprehensive descriptive analysis of the Iowa adult basic education (ABE) population. Data were collected through comprehensive interviews from a carefully drawn random sample (n=323) of those who completed less than 11 grades. A random subsample was followed up by telephone interview. The population was described on three dimensions: motivations for attending, sociodemographic characteristics predictive of group behavior, and learners' cognitive ability and achievement levels. The research also segmented the population into groups that represented the underlying behavioral structure of the population and determined the success of the population according to selected success indicators. Findings indicated an underlying structure to motivation that was embodied in 10 factors: self-improvement, family responsibilities, diversion, literacy development, community/church involvement, job advancement, launching, economic need, educational advancement, and urging of others. The ABE population segmented itself into six types: mainstream women, the least affluent/least employed, the urged, young adults, the climbers, and low ability strivers. The cognitive ability, aptitude, and achievement levels were quite low. (Instruments are appended.) (YLB)

IOWA'S ADULT BASIC EDUCATION STUDENTS: DESCRIPTIVE PROFILES BASED ON MOTIVATIONS, COGNITIVE ABILITY, AND SOCIODEMOGRAPHIC VARIABLES

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TABLE OF CONTENTS

LIST OF TABLES

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Many people contributed generously of their time and expertise in the completion of this study. We wish to thank Iowa's ABE Coordinators for their cooperation and interest in this study. We also offer our thanks to the dedicated adult educators who served as information specialists on the project, traveling many miles to interview students in programs throughout the state.

In addition, we appreciate the efforts of Judith M. Arthur, Donna Freeman, and Brent R. Snow, doctoral candidates at Syracuse University, who assisted in developing the survey instrument and in analyzing data, and of David N. Brown, a doctoral candidate at Rutgers, who coded the surveys for data entry.

Finally, we offer our heartfelt appreciation to the adult learners of Iowa, who gave unselfishly of their time in order to participate in this study. If this research teaches us how to serve them better, then their time has been well spent, and we have accomplished what we set out to do.

2. To segment the population into groups which represent the underlying behavioral structure of the population.

   Although the ABE population is clearly heterogeneous, there has been a tendency in the past to treat the population as if it were comprised of one homogeneous group. This has made it difficult to individualize instruction according to specific need and to recruit learners based on a differentiated marketing approach. The segmentation has been conducted to divide the population into groupings based on learners' motivation to attend and described by relevant sociodemographic indicators and achievement/ability levels.

3. To determine the success of the population according to selected success indicators such as persistence and teacher evaluation and to examine the correlates of success.

To accomplish these objectives, data were collected from Iowa ABE learners by means of comprehensive focused interviews. To assess the success of the population, a random subsample of 99 learners was followed up by telephone interview six months after initial data collection.

To address our first two objectives, three types, or "frames," of data were collected. The first frame consisted of sixty-two items probing motivations for attending ABE. The second frame was comprised of thirty-six sociodemographic variables predictive of group behavior, and the third frame measured cognitive ability and achievement using the Woodcock-Johnson Psycho-Educational Battery.

This report is organized into six major sections: Methods and Procedures, Motivations, Descriptive Profile of Iowa's ABE Population, Population Segmentation, Population Success: The Follow-Up Study, and Conclusions and Recommendations: A Market Perspective.

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I. METHODS AND PROCEDURES

Population and Sampling

The relevant population for this study was defined as all Iowa adult learners who were currently enrolled in ABE programs open to the general public and who had completed less than eleven grades of formal schooling. More educated learners were excluded from the study because of a state priority to focus on less educated learners. Certain special populations (ESL students, institutionalized students, and students receiving one-on-one instruction through volunteer literacy programs) were excluded because of predictable differences in individual motivations, life situations, and instructional needs, which would have confounded interpretations of the findings.

In order to formulate a usable sampling frame for this population, local coordinators were asked to supply the active enrollment figures (as opposed to annual enrollment figures) for each of the open enrollment ABE classes operating in Iowa as of October 10, 1985. From this, we were able to formulate a sampling frame of 3090 students in 255 classes.

Because we wanted to ensure that our findings could be generalizable to ABE students throughout the state, it was necessary to devise a sampling plan that ensured that each and every ABE student had an equal chance of being included in the study. The most obvious way to accomplish this, simple random sampling, was impossible due to logistical considerations. We therefore employed probability-proportionate-to-size sampling without replacement. This procedure allows for sampling in two stages: first, classes are sampled and then students within those classes. The specific steps we followed in drawing the research sample were:

1. Class enrollments were divided into blocks of three students and a unique number assigned to each block. Thus a class with 30 students would be assigned ten numbered blocks, while one with an enrollment of six would be signed only two blocks.
2. Using a table of random numbers, 117 blocks were selected. The resulting target sample consisted of 85 classes, from which 351 students were to be drawn--a number both adequate for purposes of analyses and generalizability, and feasible given project resources.
3. Interview forms were produced, with each form bearing a unique number between one and 351 and the name and location of the class in which it was to be administered.
4. Because the time required to administer the Woodcock-Johnson Psycho-Educational Battery precluded the possibility of administration to the total sample, it was decided that a random subsample would suffice. Using a table of random numbers, 50 percent (N=175) of the sample was identified for test administration, and this was indicated on the appropriate interview forms.
5. The next step took place on-site and was handled by the interviewers. Upon arriving at a class, interviewers compiled a listing of students present, and, using a table of random numbers, matched students to each interview form to be completed.

Survey Development

Our experience in surveying adults of low academic ability had taught us that clarity of questions and ease of response were especially critical

factors in the design of surveys for the ABE population. In designing the survey instrument for this study, we strove to use simple, natural language in all questions and to keep the response "load" (the complexity of thinking required to answer any given question) to a minimum.

The survey covered three major types, or "frames," or data. (The survey instrument is included as Appendix A.) The first, and central, frame dealt with students' motivations for attending ABE. The first step in developing this section was to conduct and tape record in-depth, open interviews with twelve ABE students. We knew from past research that if you simply ask students why they attend, they will give such sensible but obvious answers as "to get a diploma" or "to learn to read." Such answers, while undoubtedly true, tap only one level of motivation. If this study were to be truly comprehensive, we knew that we would have to dig deeper to discover other levels of motivation--motivations rooted not in program goals but in the life situations of students. Therefore, during the open interviews, if a student responded, "I want to get a diploma," the interviewer asked, "Why do you want to get a diploma?" This second level of questioning yielded responses such as "People don't respect me," or "I want to set a better example for my children." In our opinion, such responses represent a richer and more important level of motivation and one which is sorely lacking in most prior research.

The tapes of the open interviews, together with a review of relevant literature, yielded 62 unique motivations for attending ABE. These motivations were formatted into selected-response items, wherever possible retaining the wording used by students in the open interviews. The directions for these items read, in part: "After I read each statement,

tell me if, for you, it is 'not true,' 'somewhat true,' or 'very true.'" Thus the response choices amounted to a three-point Likert scale, with three indicating high.

The second frame of data measured by the survey sought to comprehensively describe the out-of-school life situations of ABE students. After reviewing previous research, 36 sociodemographic variables predictive of group behavior were identified. These variables were formatted appropriately, and included as items in a second section of the survey.

The third frame of data to be collected dealt with the cognitive ability and achievement of ABE students. Our task at this point was not to develop a measure, but to select one from the many existing published materials. After careful consideration, we selected the Woodcock-Johnson Psycho-Educational Battery for a number of reasons. First the battery has excellent psychometric properties. Second, the face-to-face administration procedures provide additional safeguards against threats to validity in testing low ability learners and meshed well with our planned data collection procedures. Third, because the battery has been normed on adults, it made it possible for us to report scores, not as much-used but often misunderstood grade equivalent scores, but as age scores--scores indicating an individual's performance relative to people of his/her age.

The Woodcock-Johnson Psycho-Educational Battery consists of 27 subtests measuring various aspects of ability, achievement, and interest. For the most part, these subtests are not meant to be interpreted individually but can be combined into a variety of "cluster scores" of considerable interest to educators. For this study, we identified six cluster scores to describe the ABE population, and administered those subtests necessary to derive these six scores. The six cluster scores

selected which deal with ability/aptitude and three with achievement are as follows:

1. Broad Cognitive Ability. This is a composite of all twelve cognitive ability subtests included in the Woodcock-Johnson and may be interpreted as a general measure of cognitive ability.
2. Reading Aptitude. This is a composite of four subtests (Visual-Auditory Learning, Blending, Antonyms-Synonyms and Analogies) representing cognitive skills believed to be basic to the reading process.
3. Math Aptitude. This is a composite of four subtests (Visual Matching, Antonyms-Synonyms, Analysis-Synthesis, and Concept Formation) which reflect mathematical aptitude.
4. Reading Achievement. This is a composite of three subtests (Letter-Word Identification, Word Attack, and Passage Completion) measuring reading performance.
5. Mathematics Achievement. This is a composite of two subtests (Calculation and Applied Problems) measuring performance in mathematics.
6. Knowledge. This is a composite of three knowledge area subtests (Science, Social Studies, and Humanities).

Data Collection

A team of information specialists, all thoroughly familiar with ABE, were trained by project staff in data collection procedures. Training covered three basic areas: a) random selection of students, b) questionnaire administration, and c) administration of the Woodcock-Johnson Psycho-Educational Battery. The training provided adequate opportunity for

practice administration and for the raising of questions and was reinforced by the distribution of a paper detailing data collection procedures.

Data were collected between mid-October and mid-December of 1985. The survey was administered as a focused interview, during which the information specialist read all questions to respondents and recorded their answers. Interviews took on the average of one-half hour when only the main survey was administered. For the 50 percent random subsample who were administered both the main survey and the Woodcock-Johnson Psycho-Educational Battery, the total administration time was approximately 75 minutes.

Because of enrollment fluctuations, there were some classes in which fewer eligible students were available for administration than the number called for by the sampling plan. In a small minority of cases, a student was selected, but then refused to participate in the interview. These two factors resulted in a slight reduction in the targeted sample size. The total sample was reduced from an N of 351 to 323 and the Woodcock-Johnson subsample was reduced from 175 to 153. As a result the effective response rates are .92 and .87 respectively. The 323 respondents in the main sample were enrolled in 84 different classes throughout the state.

Data Analysis

Completed surveys were forwarded to the principal investigators, who had them coded and entered into the computer. The Statistical Analysis System[2] (SAS) was used for data analysis. Specific data analysis procedures will be reported in subsequent sections, as appropriate.

II. MOTIVATIONS

An understanding of students' motivations for attending ABE programs is critical for targeting recruitment and planning effective instruction. Students attend in order to actualize their motivations. Hence, if motivations are known, promotional messages can be formulated which are optimally attractive. Likewise, if motivations are known, the content of instruction can be tailored to individual preferences, and "the teachable moment" can be put to good use. Because we wanted to be as inclusive as possible, the data collection instrument included sixty-two distinct items on motivations. Although this resulted in a truly comprehensive description of motivations, the sheer amount of data, if left on the item level, would be more apt to confuse than inform adult education practice. Even the most committed reader, when confronted with a long listing of means for dozens of items, would find it difficult to see the forest for the trees. This generated a question: Was there an underlying structure to motivations that would allow us to sort the sixty-two items into a more manageable and usable framework?

To determine the answer, we subjected the motivation data to factor analysis. Factor analysis is a procedure which groups variables, or items, together according to their similarity to each other. These groupings are then examined by the researcher to discover what they have in common, and based on that commonality, the researcher labels the factors. Thus factor analysis enabled us to make the complex understandable by allowing us to deal with a small number of variable groupings rather than with the variables themselves.

Through factor analysis, we identified ten basic dimensions, or factors, of motivation for participating in ABE. A full description of how we conducted the factor analysis of the motivational items is beyond the scope of this report. In brief, we conducted a series of factor analyses, requesting solutions based on two through thirteen factors. Ultimately, based on scree tests (indicators of variance explained by factors) and interpretability, we selected a ten-factor solution. A table depicting the details of the factor solution is included here as Appendix B.

Ten Factors of Motivation for Attending ABE

The first factor is comprised of items expressing a need to improve oneself (e.g., "I need to feel better about myself" and "I need to be more intelligent"), and thus we have labeled it "Self-Improvement." All the items which constitute self-improvement have relatively high item mean scores, which suggests that Self-Improvement is a very important motivator for the Iowa ABE population. This is particularly interesting, as these motivations are primarily intrinsic; this conflicts with much of the conventional wisdom about ABE, which suggests that ABE students are primarily motivated by extrinsic considerations.

The second factor has been labeled "Family Responsibility." The items comprising it express a desire to set a better example for one's children, to be a better parent, to help children with homework, to take better care of one's family, and to be a better spouse,

The third factor has "Diversion" as its core. People who are thus motivated enroll because they have nothing better to do, to try something new, to meet people, or because they are bored.

The fourth factor is "Literacy Development." It is comprised of wanting to be better at reading, writing, speaking, and general communication. It is interesting that the survey item reading, "I need to be better at math," failed to load high on this factor or on any other factor.

"Community/Church Involvement" is the fifth factor. It includes wanting to help in church, wanting to read the Bible better, wanting to know how the government works, and wanting to be a smarter voter, smarter shopper, and more active in the community.

The sixth factor clearly pertains to "Job Advancement." People having this motivation want to do their jobs better, get promoted, get a better job, or expect to change jobs.

The seventh factor is a bit more difficult to interpret than the others. We have labeled this factor "Launching," in that it seems to indicate a desire to restructure and take control of one's life. It is comprised of items expressing the expectation of getting married, the expectation of having a child, a desire to move from the place where one now lives, a need to prevent people from taking advantage of oneself, and a desire for more respect from other people. Subsequent analysis shows that persons expressing this motivation tend to be very young and perhaps at a point where they are launching from adolescence to adulthood.

"Economic Need" is the label that we have assigned to the eighth factor. Its component items express the need to earn more money, the need to find work, the desire to enter job training, and the desire to get off welfare. The label is further reinforced by a moderately strong negative loading for the item that reads, "My children recently moved out of the house," a situation that could decrease economic need for a household.

It is interesting to note that "Job Advancement' and "Economic Need" have split into two separate factors, suggesting that, with respect to work, the motivations of people who have jobs differ from those of people who do not.

Factor nine clearly expresses a desire for "Educational Advancement." It includes items about finishing school, wanting a high school diploma, and wanting to go to college.

The final factor, factor ten, is labeled "Urging of Others." Students having this motivation have been urged to attend ABE by friends, family, and people at work.

Discussion of Motivations

Results of factor analysis show that the underlying structure of motivations for attending ABE programs is multi-dimensional. ABE students want to contribute--contribute to their own self-improvement, to their families, and to their communities and churches. They also want to advance in life educationally, economically, and occupationally. This picture, as characterized by the dual themes of contribution and advancement, suggests that ABE students are positive, striving individuals who attend primarily out of a desire to make the best of their lives.

In this, their motivations for attending ABE do not differ qualitatively from those of more educated adults who devote time and effort to furthering their educations.

III. DESCRIPTIVE PROFILE OF IOWA'S ABE POPULATION

This chapter is organized into three sections. The first discusses sociodemographic characteristics, the second deals with motivations, and the third presents findings on cognitive ability and achievement.

A major strength of this study is the careful random sampling procedures which have been employed. Consequently, in a very real sense the students who participated in this study speak for all the learners currently being served by Iowa's ABE programs. For, apart from the modest standard error always present in studies based on samples, what is true for this study sample is true for Iowa's total ABE population.

Sociodemographic Characteristics

Perhaps the simplest way to discuss sociodemographic characteristics is to present a series of tables depicting five dimensions of the population: the personal, educational, social, employment, and family and home life dimensions.

Personal Variables

Mean age	30.0
Percent female	66.2
Percent Caucasian	88.2
Percent black	7.5
Percent Hispanic	1.9
Percent Asian	1.9
Percent other race	.6
Percent U.S. origin	96.6
Percent handicapped	14.1
Mean doctor visits (6 mos)	3.4

If the ABE target population is defined as all adults with less than twelve years of schooling, then the mean age of 30 for participants is less than that of the target population in general which includes a significant

proportion of older adults. This is not surprising, however, as research clearly indicates that older adults tend to participate less in most adult education activities. The ABE population is predominantly female, Caucasian, and native born. Fourteen percent are handicapped, which undoubtedly represents a higher proportion than would be found in the general adult population.

Education Related Variables

Mean last grade completed	9.1
Percent who want vocational training	23.3
Percent who left school for marriage or pregnancy	17.3
Percent who left school to work	12.1
Percent who left school because of school problems	20.7
Percent who left school for other reasons	49.8
Percent who were required to attend ABE	11.5

There are several findings of considerable interest in the education related data. A significant percent of the population desires vocational training (23.3), and this would undoubtedly be higher if the employed were removed from the sample. A fifth of the population left school because of poor school relations, and nearly a fifth left because of marriage or pregnancy. Together these two reasons overshadow leaving for work (12.1). Most ABE students participate voluntarily; only about one-tenth are required to participate.

Social Variables

Mean hours of community activity per month	5.6
Mean number of times attending church per month	2.3

It is difficult to interpret these data without comparative data for the general population, but it is worthwhile to note that the population is not altogether inactive in respect to social activity of a community and church nature.

Employment-Related Variables

Percent employed	33.8
Percent unemployed, looking for work	40.8
Percent unemployed, not looking for work	25.4
Percent skilled occupations	10.5
Percent unskilled occupations	30.3
Percent homemakers	26.3
Percent unemployed, no listed occupation	23.2

The employment picture for the ABE population is about what one might expect. About one-third are employed, although the "unemployed" include homemakers and retirees. Forty percent of the unemployed are looking for work. About one quarter are not. Of those who are employed, about three times as many work at unskilled jobs as do work at skilled jobs.

Family and Home Variables

Mean family income	$11,194
Percent on public assistance	49.2
Percent married	37.2
Percent never married	39.0
Percent separated, widowed or divorced	23.8
Percent with child in home	63.2
Mean age of the youngest child for those with children	7.2
Mean number of children	1.4
Percent living in rural or small towns	48.3
Percent living in urban or large towns	51.7
Percent who own homes	32.8
Percent who rent	49.5
Percent who neither own or rent	17.6

The mean income for the target population is relatively low, and almost half are on public assistance. Persons who are not married predominate, and of these, 39.0% have never married and 23.8% are separated, divorced or widowed. Nearly two-thirds have a child in the home, and the mean number of children is 1.4. The split is nearly equal between those who live in small towns or rural areas and those who live in large towns or urban areas. Only about one-third of the population own their own homes. Half rent and the remainder (17.6%) have other living arrangements.

Motivation

In the previous section, we described ten factors of motivation for attending ABE. Neither the description of the factors nor the order in which they are numbered indicates how important these ten motivational forces are for learners who attend ABE programs. For technical reasons beyond the scope of discussion here, the relative importance of the ten factors is difficult to specify. One coarse, but useful, indication of relative importance, however, can be arrived at by comparing the mean item means for items loading principally on the respective factors. Table 1 represents a rank ordering of the mean item means for the ten factors. In examining that table, the reader should recall that the possible range of means is from 1 (low) to 3 (high).

Table 1

MEAN ITEM MEANS FOR ITEMS LOADING ON
THE TEN MOTIVATIONAL FACTORS

Factor		Mean Item Mean
Factor IX:	Educational Advancement	2.55
Factor I:	Self-Improvement	2.49
Factor IV:	Literacy Development	2.24
Factor V:	Community/Church Involvement	2.01
Factor VIII:	Economic Need	1.89
Factor II:	Family Responsibilities	1.77
Factor III:	Diversion	1.68
Factor VI:	Job Advancement	1.68
Factor VII:	Launching	1.54
Factor X:	Urging of Others	1.34

Cognitive Ability and Achievement

Although the cognitive ability and achievement levels of ABE students affect nearly every aspect of instruction, we were unable to identify a single study of credible external validity (that is, having a sample that allows for generalizing to a broader population) that investigated these important constructs. The two constructs, cognitive ability and achievement, are theoretically distinct, in that the former is an indication of how well a person might reasonably be expected to learn, while the latter indicates what has already been learned.

In this study, we collected data on cognitive ability and achievement on a random subsample (N=153) of the total study sample using the Woodcock-Johnson Psycho-Educational Battery. To analyze the data, we averaged the subtest raw scores and then derived cluster scores for the total group based on those averages. Although it is possible to produce grade equivalent scores from the data, we believe that it makes little

sense to compare adults with schoolchildren. Instead, we have chosen to report only age referenced scores--scores which compare the performance of our sample with a norming group of adults of comparable age; because the sample's average age was 30.0 years, the scores reported here were derived in relation to a norming group of 30-year-old adults. These scores take three forms. First, there are standard scores, which have a mean of 100 and a standard deviation of 15. Second, there are percentile ranks, which depict the sample's relative standing when compared to the adult norming sample. Third, there is a percentile rank range, which builds a confidence band of plus or minus one standard error of measurement around the percentile rank.

The Woodcock-Johnson Battery enabled us to obtain three measures, or cluster scores, of cognitive ability: a) Broad Cognitive Ability, which measures overall ability or learning aptitude; b) Reading Aptitude, which measures processes fundamental to the reading process; and c) Mathematics Aptitude, which predicts the aptitude to learn mathematics. The mean scores for the total sample's average cognitive ability are presented in Table 2.

Table 2
AGE-REFERENCED COGNITIVE ABILITY SCORES
FOR THE AVERAGE IOWA ABE STUDENT

Cluster	Standard Score	Percentile Rank	Percentile Rank Range
Broad Cognitive Ability	77	6	5 - 8
Reading Aptitude	79	8	6 - 10
Mathematics Aptitude	80	9	7 - 10

Obviously, these scores are low. On all three measures, the average ABE student performed worse than nine-tenths of the norming group of thirty-year-olds. When one considers that these scores represent the average ABE student and that averages are the product of scores both above and below the mean, it becomes clear that the ABE population includes a significant number of students who would find learning difficult under standard teaching/learning conditions. The generally low cognitive ability scores further demonstrate something that those of us involved in ABE have long known: Academic gains in ABE do not come easily. Only highly motivated learners, working with skilled and dedicated adult educators, can reasonably hope to overcome the type of cognitive limitations reflected in these scores.

In addition to the cognitive ability measures, we obtained three measures of achievement: a) Reading Achievement, b) Mathematics Achievement, and c) Knowledge. We included a measure of knowledge, which on the Woodcock-Johnson Battery is a cluster score derived from the science, social studies, and humanities sub-tests, largely because of research on schema theory, which suggests that background knowledge is a significant factor in reading comprehension. We here acknowledge, however, that the type of knowledge measured by these subtests is academically-oriented and not reflective of other types of knowledge perhaps more important in the day-to-day lives of adults in our society. The achievement scores for the average ABE student are presented in Table 3.

Table 3
AGE-REFERENCED ACHIEVEMENT SCORES
FOR THE AVERAGE IOWA ABE STUDENT

Cluster	Standard Score	Percentile Rank	Percentile Rank Range
Reading Achievement	82	11	8 - 13
Mathematics Achievement	75	5	2 - 8
Knowledge	75	5	4 - 6

On each achievement measure, Iowa's average ABE student is more than a full standard deviation below the mean of the norming group. Generally speaking, these scores are not surprising when one considers the cognitive ability scores discussed above. A comparison of the cognitive ability and achievement scores suggests that students are achieving slightly better than one might expect in reading but more poorly than one might expect in mathematics.

IV. POPULATION SEGMENTATION

As explained earlier, factor analysis is useful for reducing a large number of variables into a smaller number of dimensions, or factors, that can represent groupings of variables. In this study, factor analysis has enabled us to discover an underlying structure of learner motivations, and by reducing the complexity of the data, has allowed us to better understand the forces that guide students to ABE programs.

Ultimately, however, factor analysis in and of itself does not help us to recognize the diversity among ABE students. In order for this study to be of optimal use to those planning recruitment and instruction for ABE, we needed to employ a procedure that would allow us to identify and describe distinct subgroups of ABE students. To accomplish this, we analyzed the data using a disjoint cluster analysis procedure (SAS, PROC FASTCLUS). This powerful procedure groups respondents (as opposed to factor analysis, which groups variables) into mutually exclusive clusters, for which the members of each cluster are similar to one another and dissimilar to the members of any other cluster.

The steps we followed in segmenting the population by means of cluster analysis are as follows:

1. Individual factor scores (standard scores having a mean of 0 and a standard deviation of 1) for the ten motivational factors were subjected to cluster analysis. The procedure used will generate the number of clusters it is directed to. We examined cluster solutions for between one and twelve clusters, and ultimately selected the six-cluster solution, based on considerations of

parsimony and interpretability, and on plots of r-square values and SAS's "cubic clustering criterion" values. The analysis, then, resulted in six clusters, or subgroups, of individuals based on the relative levels of their scores on the ten motivational factors.

2. Each of the six clusters was then described in terms of their sociodemographic variables and their scores on the Woodcock-Johnson Psycho-Educational Battery[3].

Table 4 presents the results of cluster analysis. Before we proceed with a discussion, however, it is important to explain how to interpret these results. At the top of the table are the numbers of individuals in each cluster and the percentage of the sample that this number represents. Below that are the results of the cluster analysis of the ten motivational factors. The numbers are cluster means, indicative of how different each cluster is from the group mean (which is, by definition, 0 for each factor). Picture each cluster as a three-dimensional shape. Clusters which are relatively homogeneous, such as clusters one and five, would approximate spheres, while clusters where there are large cluster means, such as 2.05 on Launching for Cluster Three, would have a protruding node or nodes. Such a node would indicate marked divergence from the total group mean on that factor, and thus it is safe to conclude that Launching is an extremely important motivation for cluster three in comparison to other clusters. Below the motivational factors in Table 4, each cluster is described with respect to sociodemograhic variables. In interpreting these variables, it is useful to use the total sample values (depicted in the extreme left hand column) as benchmarks. Thus, it is appropriate to

refer to Cluster Three as "young" and Cluster One as "disproportionately female," because there is a substantial difference between the cluster values and those of the total sample.

Table 4
SIX POPULATION SEGMENTS OF THE IOWA ABE POPULATION:
SUMMARY RESULTS OF CLUSTER ANALYSIS

Variable	Total Sample	1	2	3	4	5	6
N	323	106	39	27	21	97	33
% of Sample	100	32.8	12.1	8.4	6.5	30.0	10.2
Factor Scores (M=0, SD=1)							
F1:Self Improvement	0	-.21	.14	-.20	-.18	.33	-.18
F2:Family Responsibility	0	.19	.65	-.55	.69	-.37	-.27
F3:Diversion	0	-.40	.87	-.33	-.02	.19	-.03
F4:Literacy Development	0	-.75	.24	-.35	.65	.66	.05
F5:Community/Church Inv.	0	-.04	.23	.37	-1.02	.15	-.24
F6:Job Advancement	0	-.18	.44	.00	.82	-.32	.49
F7:Launching	0	-.33	-.40	2.05	.86	-.25	.02
F8:Economic Need	0	-.12	-.01	.39	-1.13	.28	-.03
F9:Educ. Advancement	0	.11	.17	.22	.92	.29	-2.19
F10:Urging of Others	0	-.09	1.37	.80	-1.32	-.30	-.28
Personal Variables							
Mean age	30.0	29.5	34.5	20.0	34.1	30.8	29.5
% Female	66.2	80.2	64.1	66.7	[illegible]	59.8	43.8
% Caucasian	88.2	95.3	74.4	92.3	76.2	84.5	96.9
% Black	7.5	2.8	12.8	7.7	23.8	8.3	3.1
% Hispanic	1.9	0.9	5.1	0.0	0.0	3.1	0.0
% Asian	1.9	0.0	5.1	0.0	0.0	4.1	0.0
% Other	0.6	0.9	2.6	0.0	0.0	0.0	0.0
% USA-Country of Origin	96.6	99.1	89.7	100.0	100.0	94.9	96.9
% Handicapped	14.1	6.7	13.2	22.2	4.8	15.6	34.4
M Dr. Visits 6 mos.	3.4	3.9	2.8	3.3	5.9	3.1	1.7

(continued)

Table 4 (Continued)

Variable	Total Sample	1	2	3	4	5	6
Education-Related Variables							
Mean last grade comp.	9.1	9.2	8.9	9.3	8.4	9.0	9.5
% Wanting Voc Trng	23.3	19.8	21.1	18.5	24.7	33.3	
% Lft Schl: Mar/Preg	17.3	29.2	15.4	11.1	19.0	12.4	0.0
% LFT Schl: Work	12.1	7.5	28.2	0.0	9.5	14.4	12.1
% Lft Schl: Schl-Rel	20.7	21.7	15.4	22.2	23.8	23.7	12.1
% Req. Attend. ABE	11.5	5.7	12.8	25.9	25.0	11.3	9.1
% New ABE Enrollees	61.0	65.1	61.5	63.0	66.7	55.7	57.6
Employment Related Variables							
% Employed	33.8	31.7	40.5	30.8	47.6	24.5	53.1
% Unemp, Seeking	40.8	38.6	29.7	61.5	28.6	50.0	25.0
% Unemp, Not Seeking	25.4	29.7	29.7	7.7	23.8	25.5	21.9
% Skilled Occup.	10.5	8.5	12.8	14.8	23.8	8.2	9.1
% Unskilled Occup.	30.3	28.3	33.3	22.2	33.3	24.7	54.5
% Homemakers	26.3	38.7	25.6	11.1	19.0	24.7	9.1
Family and Home Variables							
M Household Income	11194	12604	10503	11947	12241	9342	11090
% Public Asst.	49.2	43.8	56.8	53.9	40.0	56.4	38.7
% Married	37.2	52.8	46.2	7.4	38.1	27.8	27.3
% Never Married	39.0	28.3	28.2	74.1	14.3	42.3	63.6
% Sep.Div./Wid	23.8	18.9	25.6	18.5	47.6	29.9	9.1
% w/ Child in Home	63.2	77.4	64.1	63.0	61.9	57.7	33.3
M No. of Children	1.4	1.6	1.6	1.4	1.1	1.3	1.0
% Rur. & Sm. Twn	48.3	60.4	38.5	48.2	28.6	45.4	42.4
% Urb. & Lg. Twn	51.7	39.6	61.5	51.9	71.4	54.6	57.6
% Own Home	32.8	47.2	30.7	11.1	28.6	24.7	33.3
% Rent Home	49.5	44.3	59.0	44.4	47.6	58.8	33.3
Social Variables							
M Hrs. Comm. Activ.	5.6	7.5	5.7	2.1	6.8	5.5	1.9
M Church per month	2.3	2.8	1.7	0.9	1.5	2.3	2.5

In Table 5, each cluster is described in terms of age- eferenced standard scores on the Woodcock-Johnson Psycho-Educational Battery. In scoring the tests, each cluster's mean age was used to determine the proper reference group. Once again, in interpreting scores, one should use the total group figures as the benchmark.

Table 5
COGNITIVE ABILITY AND ACHIEVEMENT SCORES FOR
SIX SEGMENTS (Clusters) OF THE IOWA ABE POPULATION

Variable	Total Sample	1	2	3	4	5	6
N	153	46	15	20	12	49	11
% of Sample	100.0	30.1	9.8	13.1	7.8	32.0	7.2
Cognitive Ability Measures: Group Means expressed as Age Equivalent Scores (M=100, SD=15)							
Broad Cognitive Cl.	77	80	78	83	75	75	72
Reading Aptitude	79	82	77	85	75	77	79
Mathematics Aptitude	80	82	79	84	75	80	75
Achievement Measures: Group Means expressed as Age Equivalent Scores (M=100, SD=15)							
Reading Achievement	82	84	75	86	78	81	73
Mathematics Achiev.	75	79	74	79	74	78	66
Knowledge	75	79	75	80	77	74	78

Discussion of Population Segments

Cluster One

Cluster one represents approximately one-third of the population and is relatively homogeneous in r spect to motivations, meaning that the differences between motivations within the cluster are not great. These individuals are most motivated toward family responsibility and least

motivated by literacy development and launching. As we examine the sociodemographic variables, we see that Cluster One students are of about average age for the population (29.5). They are also predominantly women (80.2%), and a disproportionate number left school because of marriage and pregnancy (29.2), which is probably an artifact of the large percentage of women in the cluster. They are the least required to attend (5.7%) and spend the most time in community activity (7.5) hours per month. They also attend church the most (2.8 times per month). They are about average for the population in respect to employment variables, although there are more homemakers in this group than any other. They have the highest family incomes ($`2,604) and are lower than average in respect to the percent receiving public assistance (4: 3%). There is the highest incidence of marriage in this group (52.8%) and a lower than average amount of separation and divorce. This group also has the largest percent with children in the home (77.4) and the largest percent residing in rural or small town areas (60.4).

Although care must be exercised in interpreting the Woodcock-Johnson data because of the smaller N of the subsample, it is worthy to note that this group is above the total sample average on all cognitive ability and achievement scores. Taken together the picture portrays the mainstream Iowa female ABE population which we will hereafter term "mainstream women."

Cluster Two

Cluster two, 12.1 percent of the population, is most motivated by the urging of others (1.37), and is also motivated by diversion (.87) and, to a lesser extent, by family responsibility (.65). They are least motivated by launching (-.40). They are the oldest group and are about average for the

population in respect to percentages of females and males. A disproportionate number left school to go to work (28.2%). A larger than average percent are employed (40.5%), although two other clusters are higher in respect to employment. The family incomes for this group are lower than the average ($10,503), the second lowest of all groups, and there is the highest incidence of public assistance among this group (56.8%). They are predominantly from urban areas and large towns (61.5%), and they, more than any other group, tend to rent their homes.

Again, because of the small numbers, we must be careful in using the Woodcock-Johnson data. Yet it is worthwhile to note that while this group is about average on ability measures, it is below average on reading achievement. One possible explanation for this is that, being older, they have been out of school longer and have lost some of their reading skill.

The most salient features of this group are that they are motivated by the urging of friends, relatives or workmates, that they are also motivated by diversion, and that they are older and less affluent. We shall call them "the urged."

Cluster Three

Cluster three is a small group emcompassing 8.4 percent of the population. They are strongly motivated by launching (2.05) and to some extent by the urging of others (.80). They are less motivated by self-improvement, family responsibility, diversion and literacy development. This group is by far the youngest (mean age=20.0) and about average in respect to gender composition. More have been required to attend than any other group (25.9%). Their involvement in community activity is low (2.1 hour per month) and they attend church the least (.9 times per month).

This group has the highest percent of unemployed looking for work (61.5) and most have never been married (74.1). Most neither rent nor own homes (44.5) suggesting that they still live with parents. The Woodcock-Johnson scores for this cluster are better than those of any other cluster.

These data clearly portray a group of young adults at the point of launching from late adolescence into adulthood. We have termed them "young adults."

Cluster Four

This small cluster (6.5% of sample) is the most spread out in respect to motivations. By far they are least motivated by community/church involvement (-1.02), economic need (-1.13) and the urging of others (-1.32). They are motivated by educational advancement (.92), launching (.86), job advancement (.82), family responsibilities (.69), and literacy development (.65). In short, the number of motivational factors scored highly, and the nature of those motivations, suggests a group that is extremely interested in moving up the socioeconomic ladder.

This is an older group (mean age 34.1) and is the only group with a significant number of blacks (23.8%). Although this cluster contains fewer handicapped adults than any other (4.8%), this group visits physicians the most (5.9 visits in six months). Cluster four has lowest grade completion (8.4) and the second highest number of those who were required to attend (25.0%). The hours they spend in community activity per month is second highest (6.8), while the number of times they attend church per month is the second lowest (1.5).

This group has the second highest percentage of employed individuals (47.6%) and the largest percentage of skilled workers (23.8%). Their family incomes are second highest ($12,241) and the percent receiving

public assistance the second lowest (40.0%). This group has by far the greatest incidence of separation and divorce and widowhood (47.6%) The group is disproportionately from urban areas and large towns (71.4%), more so than any other group.

The picture here is of an older group of urban and large town dwellers who are relatively better off than the sample as a whole. They are motivated out of a desire to enhance their socioeconomic status, and thus we have termed them "the climbers."

Cluster Five

This cluster is relatively large, accounting for 30% of the sample. Their motivations are relatively homogeneous, but they are most motivated by literacy development (.66). This group is about average in age (30.8) but has more males (40.2%) in it than any other group except cluster six. It has the lowest percent of new enrollees in ABE (55.7%). Cluster five is the most unemployed group (with only 24.4% employed), has the least members in skilled occupations (8.2%), is the poorest (mean family income $9,342), and has the second highest percent receiving public assistance (56.4%). This cluster has a relatively low incidence of marriage (27.8%) and contains a large number of people who rent their homes (58.8%). Measures of cognitive ability and achievement indicate that this group is about average on these dimensions.

Clearly economic status is the defining element of this group, which we term the "least affluent/least employed." It is interesting to note that they are more motivated by literacy development than by economic need or job advancement.

Cluster Six

Cluster six accounts for 10.2 percent of the population. Group members are most motivated by job advancement (.49) and by far least motivated by educational advancement (-2.19). This group is about average in age (29.5), and contains the highest proportion of males (56.2%). It has the highest last grade attended (9.5), and also by far the highest incidence of handicap (34.4%). It also has the highest incidence of unexplained reasons for dropping out of school (75.8%). These individuals spend the least hours per month in community activity (1.9). They are, however, the most employed (53.1%), but have the greatest percent of unskilled occupations (54.4%). Their family incomes are only slightly lower than average ($11,090) and this cluster has the lowest proportion of people receiving public assistance (38.7%). Despite the fact that they are of average age, a disproportionate percentage have never been married (63.6%) and they exhibit the lowest percentage having children in the home (33.3).

Examination of the Woodcock-Johnson scores shows that this group is significantly below the population average on broad cognitive ability (72) and on reading achievement (73) and mathematics achievement (66). While this group is the most employed, its members tend to work at unskilled jobs and cognitive ability is significantly below the average for the total sample. We term this group "low ability strivers."

Summary of Population Segmentation

In summation, when the Iowa ABE population is clustered according to motivations, and each cluster is described according to its sociodemographic, cognitive ability, and achievement characteristics, the

population segments into six types of ABE students. The largest group, one-third of the population, is comprised of mainstream women. The second largest group, thirty percent of the population, is made up of the least affluent/least employed. Taken together, these two groups constitute almost two-thirds of the ABE service population in Iowa. Smaller, but still important groupings include the urged, young adults, the climbers, and low ability strivers.

In the state of Iowa, ABE is delivered by community and technical colleges which operate within territories known as "merged areas." Table 6 shows the percent of cluster types broken down by merged area.

Table 6
PERCENTAGES OF CLUSTER MEMBERS BY AREA

AREA	C1	C2	C3	C4	C5	C6	ALL CLUSTERS N
II	35.0	5.0	30.0	5.0	25.0	0.0	20
III	33.3	16.7	33.3	0.0	0.0	16.7	6
V	51.9	18.5	14.8	3.7	7.4	3.7	27
VI	25.0	0.0	0.0	25.0	25.0	25.0	4
VII	33.3	20.0	3.3	3.3	30.0	10.0	30
IX	42.1	12.3	8.8	12.3	19.3	5.3	57
X	24.0	10.7	5.3	4.0	41.3	14.7	75
XI	22.6	6.5	6.5	3.2	48.4	12.9	31
XII	29.4	17.7	0.0	23.5	29.4	0.0	17
XIII	47.1	17.7	5.9	0.0	17.7	11.8	17
XIV	33.3	0.0	0.0	0.0	33.3	33.3	6
XV	20.0	12.0	8.0	4.0	36.0	20.0	25
XVI	25.0	0.0	0.0	0.0	75.0	0.0	4
(missing)	50.0	0.0	0.0	25.0	25.0	0.0	4
ALL AREAS							
N	106	39	27	21	97	33	323
%	32.8	12.1	8.4	6.5	30.0	10.2	

NOTE: Read this table across to discover the cluster composition of areas.

It is difficult to make generalizations for most merged areas because of the small numbers. Nevertheless, it is clear that cluster types do vary by geographic region. This is apparent, for example, in the differences between merged areas IX and X. These areas have the largest numbers of study participants. Hence the differences are probably quite accurate.

Area IX has almost twice as many mainstream women as does Area X, and both areas have considerably more of the least affluent/least employed than other areas. Even given the small numbers in some merged areas, it is safe to conclude that Area II has a disproportionate number of young adults and in Area V mainstream women predominate disproportionate to any other area except Area XIII. The concentrations of mainstream women, the largest cluster group, seem to vary widely. This is true also for the second largest group, the least affluent/least employed. The numbers of the other groups are too small to make generalizations.

Bear in mind that these comparisons pertain to ABE participants. Relative differences could be the result of either larger concentrations of a particular type in a particular area or the result of special success in attracting a certain type.

V. POPULATION SUCCESS: THE FOLLOW-UP STUDY

One objective of this study was to follow-up our original sample to determine the learning success of the population, and to analyze the correlates of success. The results of the follow-up are reported in this section.

The follow-up study tracked a subsample of 99 subjects in May and June 1986, approximately six months after the original data collection. Procedures for conducting the follow-up study are as follows:

1. A subsample of the study population was randomly selected according to a table of random numbers (N=109).
2. The follow-up survey was constructed. A copy can be found in Appendix C. Because we did not want to lead the respondents or to limit response choices, data on student goals and on the outcomes of their learning were collected in open-ended format and inductively coded for analysis.
3. Data were collected through telephone interview. Interviewers were trained by project staff and instructed to attempt to make contact with the subject at least ten times before giving up. A log was kept on each attempted contact. In several cases those selected for the follow-up sample did not have telephones. In these cases the items were formatted into a mailed survey which was the exact duplicate of the telephone instrument. We were successful in gathering data from 99 of the 109 subjects selected for the follow-up for a response rate of 90.8%.
4. We were also interested in teacher's assessments of their students' progress. Consequently, a teachers' follow-up

instrument was constructed which asked teachers to rate their student's progress on several dimensions. This instrument can be found in Appendix D. Teacher instruments were sent to all teachers of students selected for the follow-up. The response rate for teachers was 100%.

GOALS

In an open-ended format, subjects were asked to list their goals for attending ABE classes. Responses were then inductively coded. Reported goals are as follows:

Table 7
GOALS FOR ATTENDING

Goal	Percent
To earn a diploma or GED	64.2
General reading and writing skills	11.6
To go on to college or other further education	6.3
To help children	5.3
To get a job	4.2
General self-improvement	4.2
Other	4.2

Clearly, attaining a diploma outweighs all other reasons for attending.

Students were then asked how much progress they had made toward reaching desired goals. Fifty-one percent responded "a lot," 40% responded "some," 8 percent responded with "none."

When subjects were asked whether they were still attending classes, one-third responded in the affirmative and two-thirds said no. Reasons given for no longer attending are:

Table 8
REASONS FOR NOT ATTENDING

Reason	Percent
Completed the program	41.9
Work interference	14.5
Class terminated	8.1
Moved	8.1
Lacked child care	4.8
Lacked transportation	3.2
Poor health	3.2
Other	11.3

It is clear that half of the terminations cannot be considered dropouts as completion and class termination account for 50 percent. When these categories are removed from analysis the apparent drop-out rate at six months is 33 percent. This figure is probably inflated, however, as many of those counted as terminations may be temporary stop-outs and may plan to return at a later date. Findings on student status in the program can be summarized as follows: After a period of six months, one-third of the students sampled are still active in the program, one-third have terminated, and one-third have completed or are no longer attending because their classes were terminated.

Follow-up subjects were then asked to express their satisfaction with various aspects of ABE programming.

Table 9
STUDENT SATISFACTION

Satisfied with	% very	% some	% not
Books and materials	73.2	21.6	5.2
Things taught	64.9	33.0	2.1
Teaching	81.4	16.5	2.1
Other students	51.0	47.9	1.0
The way you were treated	85.4	12.5	2.1
The place of the class	79.4	19.6	1.0

Students are most satisfied with teaching and the way they were treated, which suggests that the human relations component of ABE instruction is sound. Students are least satisfied with other students, which is a finding that is difficult to interpret and requires further analysis.

The concluding questions in the follow-up study asked respondents whether their lives had improved in any way because they attended ABE, and if so, how. Seventy-seven percent indicated that their lives had improved in the following ways:

Table 10
LIFE IMPROVEMENT

How	Percent
Increased self-confidence or esteem	35.0
Reads, writes or communicates better	17.9
Got or improved job	9.0
Went on to further education	7.7
Acquired specific life skills, e.g., reads signs	6.4
Can help children	5.1
Acquired interpersonal skills	2.6
Other	11.6

ABE students clearly indicate that increased self-confidence is the greatest benefit from attending ABE and obviously recognize the change in this trait within themselves. They also realize that they are able to read, write, and communicate better and note that this has changed their lives for the better. Other benefits often noted in the literature such as job acquisition or improvement and further education seem to be of less importance. We suspect that one reason for this picture is that data on life improvement was collected in open-ended format and inductively coded. Hence, the subjects were not lead by a pre-established response format.

To buttress the data collected from students, student's teachers were asked to rate their student's progress in reading, mathematics, and on student's progress toward their own goals.

Table 11
TEACHERS' ASSESSMENT OF STUDENTS

Assessment	Percent low 1	2	3	4	high 5
Reading	7.5	14.2	35.8	31.1	11.3
Math	9.1	15.2	37.4	29.3	9.1
Student goals	9.1	14.1	33.3	25.3	18.2

Clearly, teachers feel that students are most successful in attaining their own goals. Successes at reading and mathematics are essentially equal to each other.

The follow-up data permits us to answer two vital questions which are important to an understanding of how the ABE program impacts on the success of learners. These questions are:

1. What factors are related to students' persistence in the program?
2. What is the relationship between cognitive ability and achievement and various measures of student success?

Persistence

To analyze the relationship between various factors and persistence, the follow-up population was divided into three groups. The first group was comprised of students still attending the program after six months (N=33). The second group was made up of those who had completed the

program (N=28), and the final group was comprised of students who, for various reasons, had dropped out. The comparison of these three groups is as follows:

Table 12
STUDENT PERSISTENCE

Variable	persist	complete	dropout
Mean broad cog. ability	497(13)	516(12)	505(11)
Mean reading achievement	495(13)	521(12)	507(11)
Mean math achievement	505(13)	534(12)	517(11)
STUDENT SATISFACTION (range of 1 to 3) (1 = high)			
With progress	1.5(33)	1.3(28)	1.9(30)
With materials	1.4(33)	1.3(28)	1.2(30)
With things taught	1.2(33)	1.4(28)	1.5(30)
With teaching	1.3(33)	1.2(28)	1.2(30)
With other students	1.2(33)	1.5(28)	1.6(30)
With way treated	1.2(33)	1.1(28)	1.2(30)
MOTIVATIONS (factor scores)			
Self-improvement	-.13(33)	-.07(28)	-.35(30)
Family responsibility	-.09(33)	.10(28)	.03(30)
Diversion	.25(33)	-.01(28)	-.10(30)
Literacy development	-.03(33)	.05(28)	-.18(30)
Community/church involvement	-.15(33)	-.03(28)	-.07(30)
Job advancemer	.07(33)	-.32(28)	.38(30)
Launching	.23(33)	-.30(28)	.06(30)
Economic need	-.01(33)	.10(28)	.06(28)

Table 12 (continued)
STUDENT PERSISTENCE

Variable	persist	complete	dropout
Educational advancement	.17(33)	-.02(28)	.14(28)
Urging of others	.01(33)	.02(28)	-.02(28)
DEMOGRAPHICS			
Mean hours worked per week	32(7)	27(13)	29(15)
Last grade completed	8.6(30)	9.4(28)	9.1(30)
Mean age	33.8(33)	30.6(28)	31.2(30)
Percent female	63.6(33)	78.6(28)	63.3(30)
Mean income	12,695(22)	9,138(27)	14,000(25)

(Note: N is in parentheses after means)

In respect to cognitive ability and achievement, it is clear that completers are more able and have higher levels of achievement than either persisters or dropouts. The N for cognitive ability and achievement is small, however, and these results should be viewed with some caution. Nevertheless, this finding is hardly surprising.

Student satisfaction with the program does not seem to differ a great deal among the three groups, although dropouts do seem to rate their progress in the program the lowest, as would be expected. Likewise, motivations do not seem to have great distinguishing power among the three groups. Persisters have a small tendency to be motivated by diversion, launching, and educational advancement. Completers are most motivated by family responsibility and economic need and least motivated by launching and job advancement, while dropouts are most motivated by job advancement and least motivated by self-improvement.

An analysis of the demographic data shows that persisters are somewhat older than completers or dropouts. Completers, and to some extent dropouts, have more years of previous schooling than persisters, and completers have the highest incomes while persisters have the lowest. Completers are more likely to be female than either persisters or dropouts.

To investigate the effects of students' cognitive ability, we computed correlations among broad cognitive ability, reading achievement, math achievement and various impact variables.

Table 13
CORRELATIONS BETWEEN COGNITIVE ABILITY, ACHIEVEMENT AND IMPACT VARIABLES
(All significant at .05 or better)

Variable	Broad cog. ability	Reading achievement	Math achievement
Student satisfaction with materials	ns	ns	.36
Teacher's evaluation of reading progress	ns	.34	ns
Teacher's evaluation of math progress	.44	.40	.53
Age	-.31	ns	ns

These data lead to several interesting conclusions. First, when we correlate students' evaluations of the program with ability and achievement, we find only one significant relationship--between student satisfaction with materials and reading achievement. We suspect that poorer readers find the materials frustrating. There is no relationship

with other dimensions of students' asssessments, which include satisfaction with things taught, teaching, other students, the way they were treated, and the place. However, when we examine teachers' evaluation of students in respect to cognitive ability and achievement, we find that there are significant relationships between reading achievement and the evaluation of reading progress. We also see that cognitive ability, reading achievement, and math achievement are related to teachers' evaluation of math progress. Neither cognitive ability or achievement appears to be related to teachers' evaluation of the degree to which students met their own goals.

It would seem from these data that students' satisfaction with the program is by and large unrelated to their ability and achievement levels. Teachers, however, do use cognitive and achievement criteria in evaluating student academic success, and this assessment is for the most part fairly accurate.

While cognitive ability and achievement are not related to income, employment status, or last grade completed, cognitive ability is related to age, suggesting that older students may have more difficulty in the program.

Success by Segmentation Cluster

One of the objectives of the follow-up was to measure the success of each segmentation cluster. As it turned out, the N for most segmentation clusters in the follow-up sample was sufficiently low to preclude generalization. However, some of the data merits reporting:

C1 = Mainstream women
C2 = The urged
C3 = Young adults
C4 = The climbers
C5 = Least affluent/least employed
C6 = Low ability strivers

Table 14
ATTENDANCE STATUS BY SEGMENTATION GROUP

Attendance Status	C1 (28)	C2 (13)	C3 (8)	C4 (6)	C5 (30)	C6 (16)	TOTAL (99)
Attending	28.6	38.5	37.5	33.3	36.7	28.6	33.3
Completed	42.9	38.5	25.0	16.7	30.0	28.6	33.3
Dropout	28.6	23.1	37.5	50.0	33.3	42.9	33.3

Even given the low N, it is safe to conclude that the completion record for mainstream women is better than that for other segments and that the dropout rate for low ability strivers is greater than that of other groups.

Teachers' ratings of student progress also merit reporting by cluster segmentations.

Table 15
TEACHERS' RATINGS OF STUDENT PROGRESS
BY SEGMENTATION GROUP

Mean rating (1=low, 5=high)

Subject	C1 (32)	C2 (15)	C3 (9)	C4 (7)	C5 (31)	C6 (15)	TOTAL (99)
Reading	3.7	3.0	3.2	3.3	3.0	2.9	3.3
Math	3.6	3.2	3.1	2.9	2.9	2.8	3.1
Own goal	3.8	3.3	3.0	3.2	2.9	3.2	3.3

Again, low numbers make inferences problematic. Yet even so, it is safe to conclude that teachers' ratings of progress for mainstream women are higher than the population mean, and higher than that of any other group.

SUMMARY

An assessment of the success of the Iowa ABE population through a six-months' follow-up study indicates that by nearly all measures the program is effective. Students report their primary goal for attending is to earn a GED, which is consonant with the goals of the ABE program. After six months, about one-third have completed or have had their classes terminated and one-third have dropped out.

When asked to rate various aspects of the program, follow-up subjects responded with high satisfaction ratings. Students are most satisfied with the teaching and with the way they are treated. They are least satisfied with other students. Three-quarters of the students sampled believe that attending ABE classes has improved their lives, and the predominant area of life improvement is in increased self-confidence and self-esteem.

An analysis of persistence in the program shows that completers have higher cognitive ability and achievement scores than persisters or dropouts. Persisters tend to be older than either dropouts or completers and have completed fewer years of previous schooling. There are more women among the completers than the other two groups.

The only significant correlation between students' assessment of the program and their own cognitive ability and achievement is between reading achievement and student evaluation of learning materials. However, there are several significant correlations between teachers' evaluations of student's academic success and student's cognitive ability and achievement measures. It would seem that teachers' evaluation of student's progress is

significantly related to cognitive ability and achievement while students' assessments of the program are quite unrelated to their cognitive abilities or achievement levels.

Although a low N precludes a depth analysis of the relation of success measures to segmentation clusters, the data do warrant the conclusion that mainstream women, the largest group, are more likely to complete the program and are rated more highly by teachers in respect to their progress.

VI. CONCLUDING AND RECOMMENDATIONS: A MARKET PERSPECTIVE

The primary objective of this study has been to generate detailed descriptive information useful in planning recruitment and in tailoring instruction to the needs, wants, and preferences of learners. This concluding chapter bears on these issues and constitutes a basic market analysis focusing on promotion and product (instruction) concerns.

Concluding chapters generally represent an ending. In this case however, we hope that what we present here is just the beginning--the beginning of an ongoing discussion of our findings which will ultimately benefit the ABE learners of Iowa to whom this study has been appropriately dedicated.

Motivation

Learner motivations to attend ABE have served as the "core" of this study. We decided upon this strategy, because the concept of motivation ties together concepts of need, preference, and demand so central in understanding why learners choose to exchange their scarce resources to engage in learning. Motivation is the force which balances the costs of attending. If motivation exceeds costs, participation is likely. If the reverse is true, participation is highly unlikely in a voluntary program.

Although the economic costs in a "free" program are low, we suspect the opportunity costs such as time away from family and reduced recreational time, are rather high. Furthermore, the evidence suggests that there are substantial psychic costs associated with attendance. Our data show, for example, that most ABE students left school because of major disruptions in their lives such as marriage, pregnancy or school problems. Nearly half the respondents could not or would not articulate clearly their

reasons for leaving school, suggesting that the topic itself was painful. Undoubtedly, for most, the circumstances that resulted in leaving school were quite unpleasant, and reliving them represents substantial psychic cost.

What then are ABE students motives for attending ABE, and what are the implications? We found that there is an underlying structure to motivation embodied in ten "factors": Self-Improvement, Family Responsibilities, Diversion, Literacy Development, Community/Church Involvement, Job Advancement, Launching, Economic Need, Educational Advancement, and the Urging of Others. Clearly, motivation is multi-dimensional and is considerably more complex than the common wisdom which has it that students attend solely to earn a GED.

Motivations allow us to glimpse the "core product" for ABE students, the essential benefit they expect to obtain in participation. In this regard it is clear that intrinsic benefits play a large role and possibly a larger role than extrinsic benfits. ABE students do want to earn a GED. Indeed, to earn a GED was the second highest rated of the 62 motivations listed. Yet what is also clear is that the GED is a means to an end rather than an end in itself. Ultimate benefits include self-improvement (which explains the largest amount of variance in motivation), meeting family responsibilities, and being more effective in community/church activities. To be sure, extrinsic benefits such as job advancement and educational advancement, are important, but these types of motivations are not the be all and end all.

When all is said and done, the picture that emerges is of a positive striving population which is as driven by life actualization as any other group of students who undertake protracted and difficult learning tasks.

The implication is that promotional messages should recognize that ABE students are people who participate primarily because they want to be better people. This stance differs substantially from one that views ABE students as being deficient persons who somehow have to be "fixed-up." Likewise this positive stance should pervade instruction. Students' high satisfaction with teachers and the way they are treated by the program suggests that this may already be the case.

Population Segmentation

Traditionally, educational institutions have adopted an undifferentiated approach to marketing. They have assumed that their clienteles are relatively homogeneous and a single approach to recruitment and instruction will be attractive to all. This approach belies the point, however, that in reality educational populations are seldom homogeneous and what appeals to one subgroup will not necessarily appeal to another.

To deal differentially with important subpopulations, a differentiated marketing strategy is required in which promotional messages and instruction are geared to subgroup needs and preferences. A differentiated market strategy is nearly always more effective, but to employ it the population must be segmented into relevant subgroups. This always raises the question of what characteristics should define the subpopulations. To the extent that a differentiated strategy has been followed in ABE, populations have traditionally been segmented according to criteria generated by the political system and embodied in state priorities formalized in the state plan. While this method of "segmentation" addresses issues of equity, it misses the essential point which is that

effective population segmentation is based on criteria predictive of behavior toward the product. But what criteria are predictive of behavior toward the product, in this case ABE?

To deal with this rather thorny problem, our strategy for population segmentation focused on gathering a mass of data and allowing sophisticated sorting procedures such as factor analysis and cluster analysis to "pull out" those characteristics which are related to each other. Since the items that served as the foundations of our data were generated from ABE students and teachers, the population segmentation is based on the reality of ABE itself.

The ABE population segments itself into six types which we have termed: Mainstream Women, the Least Affluent/Least Employed, The Urged, Young Adults, The Climbers, and Low Ability Strivers. These groups exist in varying numbers; for example, mainstream women and low ability strivers account for almost two-thirds of the population. The size of the groups is, however, an artifact of two factors: the relative numbers of the segment in the target population and the program's success in attracting members of the segment.

To make best use of the segmentation, the program must first decide on which segments it wants to concentrate. Then promotion and instruction must be developed which attend to the attributes of the segment. The following discussion of each segment is designed to facilitate this.

Mainstream Women

Mainstream women comprise almost one-third of the ABE population and their most significant motivation for attending is Family Responsibil Compared to the total sample, they are disproportionately female,

homemakers, married and rural or small town in residence. More than any other group they left school because of pregnancy or marriage, and they the highest percent with children in the home. They are above the population average in cognitive ability and achievement, and they have the highest family incomes.

Femaleness defines this population and promotion messages should be geared to this characteristic. Mainstream women might also be recruited to advantage through female oriented organizations and through agencies such as the public schools which serve their children. We suspect that mainstream women are relatively evenly distributed throughout small town Iowa, yet nevertheless, Merged Area V has an inordinate concentration of them. The reasons for Merged Area V's success might be investigated and the reasons applied elsewhere.

We suspect that mainstream women are the largest group for two reasons. The first is that there are simply more of them. The second, however, may be that they are the easiest group to attract. To the extent that this is true, concentration on this segment will produce good recruitment results, but possibly at the expense of less able and less affluent segments.

Least Affluent/Least Employed

The least affluent, least employed constitute the second largest group accounting for 30 percent of the population. They are motivated by literacy development, which is their most significant motivation, and by self-improvement, economic need, and educational advancement. They are least motivated by family responsibility and job advancement.

This group is the second most male-oriented and is the most unemployed and has the lowest incomes. There is a lower than average incidence of marriage and very few of those who work have skilled occupations.

Low economic status is the predominant characteristic of this group, and a desire to improve it seems to be basic to their motivation. Obviously, promotion should recognize this. Perhaps more important, however, ABF may be seen as the means to an economic end for this group, and program linkages to job training agencies and job placement organizations might facilitate both recruitment and more effective instruction.

Young Adults

Although young adults constitute only 8.4 percent of the population, it may well be that they are a largely untapped source of students. This group, whose mean age is 20, is most motivated by launching, which includes elements of transition from a youth role to an adult role. "Other people don't respect me" also loads on launching, suggesting that acquiring the prerogatives of adulthood is somewhat of a struggle for them. This group has the highest incidence of those required to attend, and their involvement in church and community activities is low. Most have never been married, and nearly two-thirds are unemployed and looking for work.

Although the attendance of this group may be less constrained by time than other groups, they would also appear to have a lower overall motivation to participate, which may explain their relatively low numbers. Promotion might emphasize the importance of education to gaining the respect and adult prerogatives they seem to desire. High school guidance counselors may be a lucrative source of referral. As this group seems to

have one foot in the youth culture and one foot in adulthood, age/role conflicts with older students are a possibility.

The Urged

The urged, who make up 12.1 percent of the population, are primarily motivated by the urging of others and by diversion. They are the oldest group and a disproportionate percent left school to go to work. Their incomes are relatively low and they have the highest incidence of welfare. A larger than average number reside in urban areas and large towns.

The most salient characteristic of the urged is that they seem to need the support of others to attend. Gentle and warm urging from ABE student friends and relatives might be an effective form of informal recruitment, and if employers were the promotion target, their urging might produce good results for this group.

The Climbers

Although this small group comprises only 6.5 percent of the population, they, like young adults, may represent an untapped potential. The motives of this group seem to be oriented towards moving up the socioeconomic ladder. This is an older segment and the only one with a significant number of blacks. This group is disproportionately urban and has the highest incidence of skilled workers. Their family incomes are the second highest and they have by far the greatest incidence of separation, divorce and widowhood.

This segment might be a particular target in urban and large town areas. Promotion might emphasize the status of education and the relation of education to socioeconomic advancement.

Low Ability Strivers

This segment accounts for 10.2 percent of the population. They are most motivated by job advancement and by far the least motivated by educational advancement. They are the most male group and by far have the highest incidence of handicap. They are the most employed, but have the greatest percent working in unskilled jobs. The proportion of those receiving public assistance among this group is the lowest. Despite the fact that they are of average age, nearly two-thirds have never been married. The average cognitive ability of this group is the lowest and borders on retardation.

This group may represent the greatest challenge for recruitment and instruction, for although they are certainly strivers, their ability levels may make the earning of a GED problematic. For this group the issue may be less "how do we recruit them" and more "what do we do with them once recruited."

Instruction Related Issues

When the results of the follow-up component of this study are examined, it seems clear that in general ABE instruction in Iowa is quite effective. The satisfaction level among students is high on all dimensions except satisfaction with other students, and after six months, two-thirds of the students were either still in the program or had graduated. Yet our findings do raise an issue which bears scrutiny.

We have found that the cognitive ability, aptitude and achievement levels of Iowa's ABE students are quite low. We also see no reason to expect that the Iowa population differs substantially from other ABE populations in this respect. Standard scores on all measures of the

Woodcock-Johnson for the population were more than one standard deviation below the adult norm. Since these scores represent averages, it must be remembered that they are the product of scores both above and below the mean. This means that there are substantial numbers of ABE students who will find the academic learning characteristic of the GED difficult and perhaps impossible within the scope of reasonable effort.

How should we deal with this difficult issue? On one hand, to establish an instructional technology based on the GED and to treat all learners as if they were of equal ability in respect to it prevents stereotyping ABE students into "smart" and "dumb" categories. This is a virtue. On the other hand, however, how many ABE students languish in expectation of receiving a certificate which is beyond their grasp and what is the price of the frustration this causes? Would it not be better to focus on developing a new instructional technology geared to the least able? Such a technology would focus on small gains, be more individualized, and have much lower student/teacher ratios. It would also be much more expensive.

Our findings in respect to ability levels can be treated in two ways. Either they can be ignored or explained away, or they can be openly discussed at the policy level. We hope the second path is taken.

Notes

1. The Woodcock-Johnson Psycho-Educational Battery was authored by Richard W. Woodcock and M. Bonner Johnson. It is published by DLM Teaching Resources, One DLM Park, Allen Texas.

2. SAS is a product of the SAS Institute, Incorporated, Box 8000, Cary, North Carolina 27511.

3. The reader will recall that the Woodcock-Johnson was administered only to a random subsample of the total sample; because that subsample was random, the proportion of people in each cluster receiving the Woodcock-Johnson adequately reflects that cluster's proportion with respect to the total sample. For example, Cluster One represents 32.8 percent of the total sample, and contains 30.1 percent of those receiving the Woodcock-Johnson Battery.

APPENDICES

A IOWA ADULT BASIC EDUCATION STUDY (Main Survey Instrument)

B MOTIVATIONS OF IOWA ADULT BASIC EDUCATION STUDENTS

C STUDENT FOLLOW-UP INSTRUMENTS

D TEACHER FOLLOW-UP INSTRUMENT

IOWA ADULT BASIC EDUCATION STUDY

Interviewer	Respondent ID #	Area #
Date Completed	Site Name	Site #

I. Class Information) (To be completed prior to interview; information should be obtained from classroom teacher.)

1. What type of class is this? (check one)

   _____ Drop-in learning center

   _____ Fixed schedule (specify schedule: _____ _____)

2. What percentage of class time is spent in group instruction?

   _____%

3. What percentage of class time is spent in individualized instruction? _____%

4. What percentage of class time is spent in other activities (please specify)? _____%

   Specify_____

   _____

   _____

5. Number of learners usually present in this class. _____

6. Number of learners present on day of interview? _____

7. Please supply any other information about this class that you feel might be useful to us.

II. Introduction to the Interview

My name is _____. I'm working with Western Iowa Tech, in Sioux City, on a study to help schools improve their adult basic education classes. _____ is one of the sites we're working with. I'd like you to help us by answering a few questions. We're asking the same questions of many adult students throughout the state. Your answers are very important and completely confidential. All answers will be used without names.

III. General Questions

1. How did you find out about this class? (NOTE: If respondent says they were referred by someone, find out how they are related to that person--i.e., friend, employee, etc.)

2. When did you first start attending this class?

Month _____ Year _____

3. Why did you enroll at that particular time? Was something happening in your life that made you decide to enroll?

4. Did anyone require you to attend the adult education class? (IF YES), Who and why?

5. Is there anything that makes it especially hard for you to attend class regularly? (IF YES), What makes it hard?

IV. Specific Questions. I am going to read you a group of statements that might or might not be true for you. There are no right answers or wrong answers. Only your opinions matter. Remember, everything you say is confidential. After I read each statement, you tell me if, for you, it is "not true," "somewhat true," or "very true." Again you have three choices: "not true," "somewhat true," or "very true." Ready? How true are the following statements for you?

(NOTES: a. Explain task and troublesome words as necessary.
b. If a respondent says that a statement is not applicable (e.g., #2 for a person who has no children and does not plan to have any), mark it "not true."
c. Any blank statement will be considered "not true" unless otherwise noted.)

Statements	Not True	Somewhat True	Very True
1. I need to be better at writing	1	2	3
2. I want to be better able to help my children with their homework.	1	2	3
3. I need to earn more money.	1	2	3
4. I want to be a better citizen.	1	2	3
5. I want to get off welfare. .	1	2	3
6. I want to be more intelligent.	1	2	3
7. I feel embarrassed about not finishing school	1	2	3
8. I want to be able to read the Bible better. . . .	1	2	3
9. My children will be starting school soon	1	2	3
10. I want to enter job training	1	2	3
11. People at work urged me to attend this class	1	2	3
12. I need to have more confidence in myself	1	2	3

	Statements	Not True	Somewhat True	Very True
13.	I want to be a smarter shopper.	1	2	3
14.	Other people don't respect me	1	2	3
15.	I want to help more in my church.	1	2	3
16.	I want to be better at my job.	1	2	3
17.	I need to be better at reading.	1	2	3
18.	I need to be able to communicate better with people	1	2	3
19.	I need to be a better husband or wife.	1	2	3
20.	I need to learn to speak better	1	2	3
21.	I want to learn new things	1	2	3
22.	I need to be able to prevent people from taking advantage of me . . .	1	2	3
23.	I want to set a better example for my children	1	2	3
24.	I enrolled in this class because I had nothing better to do	1	2	3
25.	I need to improve myself	1	2	3
26.	My husband or wife is very ill	1	2	3
27.	I want to get promoted on my job.	1	2	3
28.	I need to make better use of my free time.	1	2	3

	Statements	Not True	Somewhat True	Very True
29.	I might get separated or divorced soon.	1	2	3
30.	I want to get a better job.	1	2	3
31.	I want t be a smarter voter.	1	2	3
32.	I want to get a high school diploma	1	2	3
33.	I enrolled in this class because I wanted to try something new.	1	2	3
34.	Some of the best friends I have are in this class.	1	2	3
35	I want to be able to help other people.	1	2	3
36.	I need to have more control over my life . . .	1	2	3
37.	I need to be a better parent	1	2	3
38.	I need to be better at taking care of my family	1	2	3
39.	I want to be more independent.	1	2	3
40.	I need to be better at math	1	2	3
41.	I expect to get married (or remarried) soon	1	2	3
42.	I want to prove to myself that I can finish school.	1	2	3
43.	I want to know more about how the government works	.	2	3

	Statements	Not True	Somewhat True	Very True
44.	I need to be better at taking tests	1	2	3
45.	I want to go to college. .	1	2	3
46.	I enrolled in class because I wanted to meet people.	1	2	3
47.	I attend class mostly to please my relatives or friends	1	2	3
48.	I want to be able to do my job better.	1	2	3
49.	I was forced to attend this class	1	2	3
50.	My children recently moved out of the house . .	1	2	3
51.	I might lose my job in the near future.	1	2	3
52.	I'm unemployed and need to find work	1	2	3
53.	I want to enter the military	1	2	3
54.	My family urged me to attend this class.	1	2	3
55.	I want to be more active in my community.	.	2	3
56.	I need to feel better about myself	1	2	3
57.	I expect to have a child soon	1	2	3
58.	I enrolled in class because I was bored with my life.	1	2	3
59.	My friends urged me to attend this class.	1	2	3

	Statements	Not True	Somewhat True	Very True
60.	I have to support myself	1	2	3
61.	I will probably change jobs in the next year. . .	1	2	3
62.	I want to be more important.	1	2	3
63.	I enjoy learning new things	1	2	3
64.	I want to move out of the place where I now live	1	2	3
65.	Overall, I am satisfied with my life	1	2	3

V. Background Information. Now I'm going to ask you some questions about yourself. These questions will help us to understand the kinds of people who attend adult basic education classes. Remember, your answers are confidential.

1. How long have you lived where you now live?

   _____

2. How many people live in your home (including respondent)?

   _____

3. a) How many children live in your home?

   _____

   b) How old is the youngest child? _____

   c) How old is the oldest child? _____

4. a) Do you own your home or do you rent? (check one)

   _____ own
   _____ rent
   _____ other: specify_____

5. How would you describe the area where you live? (check one)

   _____ rural area
   _____ small town
   _____ large town or suburb
   _____ urban area

6. What town do you live in? _____

7. What county do you live in? _____

8. What is your occupation? _____

9. a) Are you currently employed? _____ Yes
_____ No

b) IF YES, How many hours per week do you usually work? ____

c) IF NO, Are you looking for work? _____

How long have you been unemployed or retired? _____

10. a) Have you ever attended a job or vocational training program?
_____ Yes
_____ No

b) IF YES, For what occupation were you trained?
_____

11. a) Would you like to attend a job or vocational training program?
_____ Yes
_____ No

b) If YES, For what occupation would you like to be trained? _____

12. a) What is your marital status?
_____ Never Married
_____ Married
_____ Separated
_____ Divorced
_____ Widowed

b) IF MARRIED, How long have you been married? _____

c) IF SEPARATED, How long have you been separated? ____

d) IF DIVORCED, How long have you been divorced? ____

e) IF WIDOWED, How long have you been widowed? _____

13. In an average month, how many hours do you spend in community activities or club activities? _____

14. About how many times a month do you go to church? _____

15. How many times have you been to a doctor (excluding dentists) in the past six months? _____

16. a) What was the last grade you completed in school as a child?

_____

b) Why did you leave school at that time?_____

_____ _____ _____

17. Are you handicapped? (If, YES). Explain.

18. What is your:
    a) Age? _____
    b) Sex? _____
    c) Race? _____
    d) Country of Origin? _____

19. What is your total annual household income? _____

20. Are you currently receiving any type of public assistance or public subsidy? (If YES), Specify.

VI. Woodcock-Johnson Test. NOTE: IF, AND ONLY IF, "W" IS CHECKED AT THE TOP OF PAGE 1, ADMINISTER THE TEST TO THIS RESPONDENT. IF 'W' IS NOT CHECKED, GO ON TO THE NEXT PAGE NOW.

IF YOU ARE GOING TO ADMINISTER THE TEST, YOU SHOULD PROBABLY TAKE A SHORT BREAK NOW AND ANOTHER ONE HALF WAY THROUGH THE TEST. TOTAL ADMINISTRATION TIME WILL BE ABOUT 90 MINUTES.

FOLLOW THE STANDARDIZED DIRECTIONS FOR ADMINISTERING THE TEST. FOR TWO OF THE SUBTESTS, YOU WILL NEED A CLEAR SOUNDING CASSETTE PLAYER. AFTER ADMINISTERING ALL SUBTESTS, GO ON TO SECTION VIII OF THIS SURVEY. AFTER CLOSING THE INTERVIEW, IMMEDIATELY CALCULATE RAW SCORES AND ENTER THEM ON THIS PAGE. ALSO ENTER ANY COMMENTS YOU HAVE ABOUT THE TESTING SESSION.

ATTACH THE COMPLETED SCORE SHEETS TO THIS INTERVIEW.

Part	Subtest	Raw Score
I	1. Picture Vocabulary	_____
I	2. Spatial Relations	_____
I	3. Memory for Sentences	_____
I	4. Visual-Auditory Learning	_____
I	5. Blending	_____
I	6. Quantitative Concepts	_____
I	7. Visual Matching	_____

I	8.	Antonyms-Synonyms	_____
I	9.	Analysis-Synthesis	_____
I	10.	Numbers Reversed	_____
I	11.	Concept Formation	_____
I	12.	Analogies	_____
II	13.	Letter-Word Identification	_____
II	14.	Word Attack	_____
II	15.	Passage Comprehension	_____
II	16.	Calculation	_____
II	17.	Applied Problems	_____
II	20.	Science	_____
II	21.	Social Studies	_____
II	22.	Humanities	_____

Comments on Testing

VII. Marketing Information. IF THE WOODCOCK-JOHNSON TEST HAS BEEN ADMINISTERED TO THIS RESPONDENT, GO ON TO THE NEXT PAGE. IF THE TEST HAS NOT BEEN ADMINISTERED (I.E., IF "W" IS NOT CHECKED ON THE FIRST PAGE), PLEASE COMPLETE THESE QUESTIONS BEFORE GOING ON TO SECTION VIII.

1. How did you find out about the adult basic education program? (Check all that apply.)

_____ friend
_____ relative
_____ employer
_____ counselor
_____ radio
_____ TV
_____ newspaper
_____ ABE recruiter
_____ other (specify) _____

2. Who encourages you to keep going in the program? (Check all that apply)

_____ friend
_____ relative
_____ employer
_____ counselor
_____ pastor
_____ fellow employee
_____ teacher
_____ fellow student
_____ other (specify) _____

3. If you could be one of these, which would you like to be? (check one)

_____ rich
_____ good
_____ beautiful
_____ powerful
_____ smart

VIII. Follow-up Information. We like to keep in touch with our students after they leave the program. Sometimes we call them up just to ask questions about what they are doing. We also like to ask them how they liked our program. Sometimes they give us valuable suggestions about how we can make our program better.

Please give me the following information, so that we will know where to reach you in the future.

YOUR NAME _____
first last

YOUR ADDRESS _____
street apt. number

_____
city state zip code

YOUR TELEPHONE NUMBER _____

Sometimes our students move. Then when we try to get in touch with them, we can't find them. Please give us the name and telephone number of two people who know you very well. These people will probably know how we can get in touch with you if you move.

PERSON #1 NAME _____

TELEPHONE NUMBER _____

How do you know this person? (circle one)
friend
relative
other _____

PERSON #2 NAME _____

TELEPHONE NUMBER _____

How do you know this person? (circle one)
friend
relative
other _____

IX. Closing. Thank you for taking the time to answer our questions. Your opinions are very important to us. The information you've given us will help us improve adult basic education throughout Iowa.

X. Comments on Interview WRITE ANY COMMENTS YOU MIGHT HAVE WHICH WILL HELP US TO UNDERSTAND THIS SURVEY.

PERSON #1 NAME _____

TELEPHONE NUMBER _____

How do you know this person? (circle one)
friend
relative
other __ _____

PERSON #2 NAME _____

TELEPHONE NUMBER _____

How do you know this person? (circle one)
friend
relative
other _____

IX. Closing. Thank you for taking the time to answer our questions. Your opinions are very important to us. The information you've given us will help us improve adult basic education throughout wa.

X. Comments on Interview. WRITE ANY COMMENTS YOU MIGHT HAVE WHICH WILL HELP US TO UNDERSTAND THIS SURVEY.

MOTIVATIONS OF IOWA ADULT BASIC EDUCATION STUDENTS
Factor Solution after Varimax Rotation

Loading	Item	Item Mean
Factor I: Self Improvement (Mean item mean=2.49)		
.68	I need to feel better about myself	2.37
.62	I want to be more intelligent	2.71
.60	I need to have more control over my life	2.30
.58	I need to improve myself	2.60
.58	I want to be more independent	2.44
.52	I need to have more confidence in myself	2.39
.51	I enjoy learning new things	2.85
.50	I want to learn new things	2.86
.48	I want to be more important	2.14
.46	I need to make better use of my free time	2.27
.45	I need to be able to communicate better with people*	2.24
.45	I want to be able to help other people	2.66
Factor II: Family Responsibilities (Mean item mean = 1.77)		
83	I want to set a better example for my children	2.12
.80	I need to be a better parent	1.63
.74	I want to be better able to help my children with their homework	1.83
.67	I need to be better at taking care of my family	1.81
.50	I need to be a better husband or wife	1.46
Factor III: Diversion (Mean item mean = 1.68)		
.76	I enrolled in this class because I had nothing better to do	1.51
.69	I enrolled in this class because I wanted to try something new	2.10
.62	I enrolled in class because I wanted to meet people	1.59
.58	I enrolled in class because I was bored with my life	1.51
Factor IV: Literacy Development (Mean item mean = 2.24)		
.70	I want to be better at writing	2.25
.67	I need to be better at reading	2.31
.50	I need to be able to communicate better with people*	2.24
.47	I need to learn to speak better	2.16

(continued)

(continued)

Loading	Item	Item Mean
Factor V: Community/Church Involvement (Mean item mean = 2.01)		
.59	I want to help more in my church	1.72
.54	I want to be able to read the Bible better	2.02
.51	I want to know more about how the government works	2.18
.47	I want to be a smarter voter	1.91
.47	I want to be a smarter shopper	2.15
.43	I want to be more active in my community	2.05
Factor VI: Job Advancement (Mean item mean = 1.68)		
.7	I want to be able to do my job better	1.74
.69	I want to get promoted on my job	1.40
.59	I want to get a better job	2.20
.58	I will probably change jobs in the next year	1.39
Factor VII: Launching (Mean item mean = 1.54)		
.63	I expect to get married (or remarried) soon	1.31
.63	I expect to have a child soon	1.14
.50	I want to move out of the place where I now live	1.76
.46	I need to be able to prevent people from taking advantage of me	2.08
.45	Other people don't respect me	1.39
Factor VIII: Economic Need (Mean item mean = 1.89)		
.65	I need to earn more money	2.55
.63	I'm unemployed and need to find work	2.00
.59	I want to enter job training	2.17
.47	I want to get off welfare	1.65
-.48	My children recently moved out of the house	1.09
Factor IX: Educational Advancement (Mean item mean = 2.55)		
.74	I want to prove to myself that I can finish school	2.75
.73	I want to get a high school diploma	2.82
.46	I want to go to college	2.07
Factor X: Urging of Others (Mean item mean = 1.34)		
.66	My friends urged me to attend this class	1.35
.64	My family urged me to attend this class	1.50
.47	People at work urged me to attend	1.16

(continued)

(continued)

Notes

1. The asterisked (*) item loads on two factors.

2. The criterion level for factor loadings was set at .45.

3. Eleven of the 62 items failed to load on any factor at the criterion level.

4. Item means are based on a three-point scale, with 1 = "not true," 2 = "somewhat true," and 3 = "very true."

STUDENT FOLLOW-UP FORM

IOWA ABE STUDY
1985-1986

TELEPHONE FOLLOW-UP

Respondent's ID# _____

R's Name _____

R's Site _____

Telephone # _____

TELEPHONE LOG. The design of this research requires us to make a serious attempt to reach each and every respondent in our sample. It is, therefore, necessary that you continue trying to complete this interview until one of four things happens:

1) The interview is completed, or

*2) You determine that it is impossible to reach the respondent (e.g., disconnected phone, hospitalized, etc.), or

3) The respondent her/himself (not someone speaking for her or him) refuses to be interviewed, or

4) You make TEN successful attempts to reach the respondent.

Each time you attempt to reach a respondent, enter your initials the date, the time, of day, and the outcome of the attempt. Here are some possible outcomes:

-- "Interview completed."
-- "Respondent refused to be interviewed."
-- "Husband said to call back before noon tomorrow."
-- "Respondent can be reached at 999-9999."

	Initials	Date	Time	Outcome
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

THE INTERVIEW BEGINS ON THE FOLLOWING PAGE.

*NOTE: If the respondent lives out of state, contact the respondent at the out-of-state number.

A. WHEN SOMEONE ANSWERS THE PHONE, SAY:
"Hello, may I please speak to _____?"
(NOTE: If asked to identify yourself, give your name and say: "I'm from Western Iowa Tech and I want to ask her/him some questions about education.")

(IF NOT AT HOME) Ask when to call again or how best to reach her/him and record that information in the "Telephone Log," on page 1.

(IF CONTACT IS MADE) Go to B, below, and begin the interview.

B. This is _____ from Western Iowa Tech. We're conducting an important study to help us improve adult basic education classes. Last November you talked to someone about why you decided to go back to school. Now we'd like to ask you some questions about the class you attended. You are one of only 100 students in the whole state that we'll be calling, so your opinions are very important to us. Please be completely honest in answering our questions. No one in your class knows who we are calling, and all of your answers are completely confidential.

1. First, we'd like to know what you hoped to get out of the ABE class. What was your major goal for attending?

(IF MORE THAN ONE GOAL IS GIVEN) Which one of these goals was the most important?

2. How much progress have you made toward reaching your goal of _____ _____(repeat the goal given in response to Question 1) — a lot, some, a little, or none at all?

1 A LOT

2 SOME

3 A LITTLE

4 NONE AT ALL

3. Are you still attending the adult basic education class?

1 YES

2 NO

(IF NO) Why did you stop attending?

4. Now think about your adult basic education class. After each of the following questions, please tell me if you were very satisfied, somewhat satisfied, or not satisfied.

(NOTE: Repeat these choices after the first questions, and, if necessary, after each question.)

a. How satisfied were you with the books and materials you used?	1	2	3
b. How satisfied were you with the kinds of things you were taught?	1	2	3
c. How satisfied were you with the teaching?	1	2	3
d. How satisfied were you with the other students?	1	2	3
e. How satisfied were you with the way you were treated?	1	2	3
f. How satisfied were you with the place where you went for ABE?	1	2	3

5. Has your life improved in any way because you attended the adult basic education class?

1 YES

2 NO

(IF YES) How has your life improved?

THANK YOU FOR TAKING THE TIME TO ANSWER OUR QUESTIONS.
YOUR ANSWERS WILL HELP US IMPROVE ADULT BASIC EDUCATION IN IOWA!

Student Follow-Up Mail Form For Those Without Phones

WITCC LETTERHEAD

ID # _____

Date:

Dear (Type in name):

Remember back to last fall? At your adult education class, someone talked to you about an important study and filled out a form. The study is about adult education classes (ABE). Now we are trying to find out how a small number of people have been doing since then. We are calling most of them on the phone, but you did not list a phone. So, would you fill out the following as soon as you can and send it back to us? Thank you very much.

1. What was your goal for coming to ABE?

2. How much progress have you made in reaching your goal?

   _____ A LOT

   _____ SOME

   _____ A LITTLE

   _____ NONE

3. Are you still going to ABE?

   _____ YES

   _____ NO

4. If No, why did you stop coming?

5. Now think about your ABE class and after each of the folowing questions, tell us if you were very, somewhat, or not satisfied. (Tell us by circling the word.)

HOW SATISFIED WERE YOU WITH:

a. Books and materials	very	some	not
b. The kinds of things you were taught	very	some	not
c. The teaching	very	some	not
d. The other students	very	some	not
e. The way you were treated	very	some	not
f. The place where you learned	very	some	not

6. Has your life improved in any way because you went to ABE?

_____ YES

_____ NO

7. If your life has improved because of ABE, how has it improved?

THANK YOU!

TEACHER FOLLOW-UP FORM

As you will remember, last November at least one of your ABE students (named below) was interviewed as part of an important research project funded by the DPI. Part of that project includes a follow-up at six months, and the student below has been selected. We are only following up 100 students, so it is absolutely vital that you complete the information below and return this form as directed in the cover letter.

Student's Name _____

Student I.D. _____

1. What is the date of the last time the above student attended class?
_____.
Date

2. Is this student currently an active student?
Yes _____ No _____ Uncertain _____

3. If the student is currently active--

   a. How many times did he/she attend between December 1, 1985, and May 1, 1986?
   _____
   Times

   b. How many times could he/she reasonably have attended between December 1, 1985, and May 1, 1986, (e.g., number of class sessions during this period)? _____

   c. On the average, how would you rate this student's attendance in comparison to other students?

Poor				Excellent
1	2	3	4	5

4. If this student is not currently active or you are uncertain:

   a. How many times did he/she attend between December 1, 1985, and the date of last attendance?
   _____
   Times

   b. How many times could he or she reasonably have attended between December 1, 1985, and the date of last attendance? _____
   Times

   c. On the average, how would you rate this student's attendance prior to the last date of attendance

Poor				Excellent
1	2	3	4	5

   d. If you know, why did this student stop attending?

5. From the time of first enrollment until the date of last attendance, how would you rate this student's progress in the following: (circle the appropriate response)

	Poor				Excellent
Reading	1	2	3	4	5
Basic Mathematics	1	2	3	4	5
Meeting Student's Own Goals	1	2	3	4	5

6. In what format is the instruction this student receives:

a. _____ A class which meets regularly for the same number of hours per week

b. _____ An open learning center where students may come as they choose.