Choosing A College: The Importance of Size

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Greg is an eighteen-year-old college freshman who just dropped out of Megalopolis University after a disastrous freshman year. Neither he nor his parents know why he could not make passing grades. Although he had scored lower on college entrance exams than expected, he had maintained a “B+” average in high school, had won several science fair awards, and had headed the debating team. His popularity among his classmates and teachers had rounded out a rewarding high school experience. These achievements along with Greg's exceptional motivation to succeed had persuaded the university's admissions officer to accept Greg despite the unfavorable scores on the college entrance exam. Greg's confidence in the good general reputation of the university and the presence of many of his friends at the school had convinced him that it was the right college for him.

He had signed up as an engineering major and had joined a fraternity. Then, the trouble started - "D's" and "F's" on math quizzes, unfinished reading assignments and "F's" on pop tests in history, a "C" instead of a “B” in English because his term paper was a week late. His biology teacher responded with irritation when Greg asked for ten extra minutes on the final exam. (He had lost his place on the computer answer sheet and needed the time to mark answers again.)

Worried about his academic performance and determined to devote more time to studying, Greg quit the fraternity. Even this adjustment failed to improve his grades during the spring semester. Too discouraged to continue, Greg dropped out of Megalopolis University and began to consider careers not requiring a college degree.

What went wrong? Should Greg forget about going to college? A close look indicates that Greg is "good college material," but not at Megalopolis University. He chose the wrong school for his particular needs. Our experience at AIMS shows that Greg and his parents overlooked two critical factors in selecting a college: its size and its academic competitiveness. Part of their approach should have included determining how large a school would be best for Greg and what kind of academic standards would create the best learning environment for him.

In this bulletin, the AIMS approach to the problem of choosing the proper size college is presented. A later bulletin will deal with the degree of academic competition which is best for various students. By using this information, students and their parents can avoid the wasted time and money as well as the emotional trauma of selecting the wrong school.

To determine the optimum size college for a student, AIMS measures his Perceptual Speed. This worksample indicates a person's speed and accuracy in processing written symbols, and most school requires a great deal of this "pencil-and-paper" aptitude. Taking tests and preparing homework assignments are essentially Perceptual Speed jobs, and students who score low on this take longer on these tasks.

One of Greg's problems is low Perceptual Speed. His case illustrates how large universities cause problems for low Perceptual Speed students. Because each professor or instructor teaches a large number of students, the tests are more likely to be objective measures using true-false and multiple-choice items which can be graded quickly. Strict

time limits for tests frequently are imposed. The teacher has less time to know his students on a one-to-one basis and less inclination to deal with their problems on a personal level. His students have fewer opportunities to express themselves in classroom discussions. All these factors suggest that a student's grades at a large university are highly dependent upon his ability to answer questions on paper within a prescribed time period.

A low Perceptual Speed student like Greg might know as much information as anyone else but be unable to express that knowledge on paper quickly. He loses his place on the answer sheet, he computes numbers slowly, he inadvertently skips items on a test, and he makes mistakes. Some low scorers take over twice as long as very high Perceptual Speed individuals to finish the same amount of clerical work. Thus, low scorers need both more time to complete a test and more time to review their work to catch perceptual mistakes.

Time-limited tests obviously handicap the low Perceptual Speed student. How much? Dean Trembly studied students at the California Polytechnic State University at San Luis Obispo (at the time of his study about 8,000 undergraduates). He found that students who were slow on a Perceptual Speed test had grade point averages about half a point lower than those who were fast (Trembly, 1974). Low Perceptual Speed students, therefore, are handicapped in earning top grades. In half their courses, they begin the semester with no chance of getting an "A" grade. The facile solution is to recommend that the low Perceptual Speed students take fewer courses, a lighter work load. This approach seems plausible until one realizes that the low Perceptual Speed group in Trembly's study already was taking fewer credit hours, fewer courses per semester (Trembly, 1974).

Low Perceptual Speed students need personal attention, and a large university typically responds inadequately to this need. Because of its organizational structure, its flexibility is limited. All of its students are treated alike, and it rarely makes an exception to the rules for one student. With formalized, bureaucratic procedures, there is little chance to give students individualized attention.

Small schools usually find it easier to accommodate students who want to vary their courses of instruction. One college freshman at an extremely small college brought one grade from "C" to "B" and another from "D" to "C" by turning in extra projects. Her professors were not only willing to devote the additional time in grading her projects, but they also were pleasantly surprised at her extra effort. This kind of personal interaction with professors can ameliorate many problems for the low Perceptual Speed student. Small schools are generally more conducive to such teacher-student relationships.

In its work, the AIMS staff recommends some general rules to follow in choosing the right size college for a student's Perceptual Speed Ability:
If the Perceptual Speed score is above the 70th certile, consider colleges with enrollments above 10,000
If the Perceptual Speed score is between 40 and 70, consider colleges with enrollments between 4,000 and 10,000.
If the Perceptual Speed score is between 20 and 40, consider colleges with enrollments between 1,750 and 4,000.
If the Perceptual Speed score is under the 20th certile, consider colleges with enrollments under 1,750.

Apply these guidelines with common sense. Even though some colleges have a small student body, they emphasize paperwork ability as much as the giant universities. This situation is more prevalent in colleges with only women students, perhaps because women as a group scorer higher than men on Perceptual Speed. For example, one scholastically gifted and very motivated young woman, the daughter of a prominent educator, enrolled in a small college which is among the most selective in the nation. Because of her low Perceptual Speed, she had to devote nearly every waking minute to her school work. She averaged only four or five hours of sleep each night. While her grades remained excellent, her physical condition suffered. Finally, when registering for her junior year, she asked permission to take a lighter load. The college answered that it would not lower its standards for her. She decided her health was more important than the degree and withdrew from the school.

To avoid problems such as those encountered by this young woman and Greg, low Perceptual Speed students must be made aware of the types of schools which hinder their efforts in achieving their educational goals. Parents must realize that size may be as important a factor as social prestige in choosing an undergraduate college. Colleges should remember that by accepting low Perceptual Speed students only to flunk them out again by strongly stressing paperwork and time-limited exams, they are not winnowing the chaff but rather causing capable people to lose their self-confidence, to change their career goals unnecessarily, and to undergo negative emotional stress needlessly.

The next AIMS Research Bulletin will discuss selecting the college with the best academic standards for the particular student's educational development.

REFERENCE

Trembly, Dean (1974*). Learning To Use Your Aptitudes*. San Luis Obispo: Erin Hills.

CHOOSING A COLLEGE: THE IMPORTANCE OF VOCABULARY

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Everyone knows that the SAT (Scholastic Aptitude Test) and the ACT (American College Testing Program) are used by colleges to screen applicants. Few people realize that these ratings should be used even more judiciously by the applicants in screening the colleges. In most cases, you should choose an undergraduate college on the basis of its effectiveness in educating individuals at your own academic level.

Too often students enroll in the "best" or most prestigious college that will accept them rather than the best school for satisfying their educational needs. The argument for this decision is that to advance as much as possible intellectually, you should go to a school which is more challenging academically. One parent, himself a former educator, stated during his child's summary conference, "The freshman year of college is the boot camp of life and I want my youngster to go to the toughest school in the state."

AIMS agrees with this approach up to a point but feels that a tennis analogy offers even better advice for the high school senior selecting a college. In tennis, if your goal is to improve your own skills, you want to play with someone who is a little better than yourself. You should be able to learn readily the techniques this more advanced player uses that you do not. If you play with someone who is much more skilled than yourself, you will be tense, try to overpower every shot, and are likely to learn bad habits instead

of good ones. Of course, you are not likely to advance your own game if you play with a complete novice.

Similarly, in choosing a college, you want a school where your verbal skills are average or a little above average, but not one where you are already far ahead of your classmates or years behind them. To help explain our view, Figure 1 represents the distribution of vocabulary levels of a typical college class.

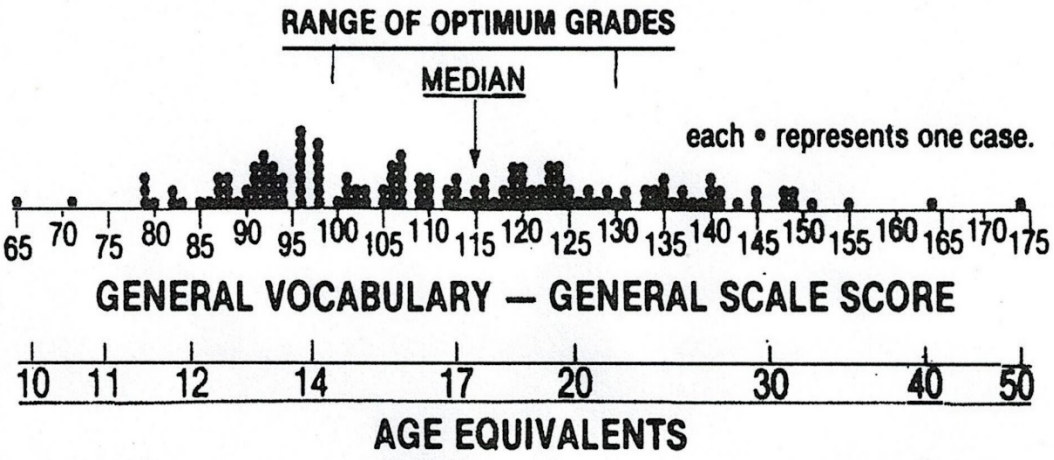
Several important points are reflected in Figure 1. First, there is a very wide range in the general knowledge levels of these students. Looking at the norms for age 18 really does not convey the extent of the difference in the vocabularies of the highest and lowest students even though one scores in the bottom five percent of his age group and the other scores in the top five percent. Beneath the general scale scores, the age equivalents of various scores are indicated. An age equivalent is defined as the general scale score of the median individual of that particular age group on the AIMS norms. Thus, while most of the individuals plotted in Figure 1 are chronologically 18 years old, the lowest individual is eight years retarded in his vocabulary development. Only against those 10 years old or younger would he score average or above. The highest student is 32 years advanced for his age. His age equivalent is 50.

No wonder that the college instructor's task is so difficult. Imagine teaching chemistry to a class than included 10-year-olds and 50-year-olds. Imagine trying to compare term papers on the same subject written by individuals 10 and 50. Realize that without intervention, the lowest person in this class will not achieve by retirement age (65) the general vocabulary level presently possessed by the highest person. Faced with this situation, the beleaguered college instructor has three basic options.

1. **Teach at the level of the highest person in the class**. This option may be more stimulating for the instructor since his or her general knowledge level is likely to be closest to that of the top student. This approach, it has been rationalized, attempts to raise the knowledge of the entire class to that of the best student. With the size of the difference just between the highest and the average student so large (see Figure 1), however, this approach is typically effective for about 10% of the class. It is not very unusual for the AIMS staff to receive reports of classes where the grade distribution is something like one A, two B's, and 75 percent D'S and F's.

ll. **Teach at the level of the lowest vocabulary student**. This option would seem to be an ideal approach. After all, if the lowest pupil can understand the discussion, everyone with a higher general knowledge level should be able to understand it also. While this assumption may be true, in practice those who are considerably higher than the level of the discussion frequently are bored and lose interest in the subject matter. AIMS' examinees who find themselves in this situation report that they fall asleep in class, start skipping class altogether, become lazy, and develop poor study habits. One young woman from a highly-rated private school enrolled at a college whose average student has a verbal SAT score nearly 100 points lower than her own. When asked what was the biggest difference she noticed between high school and college, she remarked, "There aren't as many smart people in college!" She found the textbooks uninteresting and class discussions a waste of time. AIMS believes that perhaps 30 percent of a class will be well-served by this method. The majority of the students may earn acceptable grades but in reality, add little more information which they did not possess at the beginning of the semester.

Figure 1: Distribution of General Vocabulary Scores of a College Freshman Class.



III. Teach at the level of the median student. This approach seems to be taken by the majority of experienced teachers, probably because it is the most effective. From Figure 1, it can be seen that approximately 50 percent of the students scored within 15 points of the median general scale score. This middle 50 percent seems to benefit the most from the educational programs at the college they are attending. John W. Gaston, the Director of AIMS, found at one Texas college that the middle half of the students based on general vocabulary had higher grades as a group than either the top quarter or the bottom quarter. The highest vocabulary group had straight A's, but others had very poor grades so that the average (mean) score was depressed.

Another researcher reported similar results at another college except that he used graduation as the criterion for his comparisons. Students with vocabularies near the median tended to earn good grades and graduate after four years. The top and bottom quarters more frequently flunked out, dropped out, or took more than four years to complete their course work. This result becomes more significant when one realizes that fewer than 50 percent of students graduate from the college at which they matriculated as freshman (estimate based on information *in Barron's Profiles of American Colleges, 10th Edition*).

Thus, of the three approaches, the third, teaching to the middle of the class, is the most effective. It is not an ideal solution, since an approach which benefits about half of the group also can be viewed as being unproductive for the other half. The ideal would seem to be having each college enroll students with a narrower range of vocabularies or to subdivide the sections of basic courses, such as calculus, English, and history, on the basis of vocabulary. Currently at a typical college, the top quarter of incoming freshmen are more than 120 points higher on the SAT verbal scale than the bottom quarter of the class. AIMS believes the percentage of freshmen continuing in

school until graduation would increase if 120 points or less were the maximum difference between the highest and lowest students at each college instead.

No matter how much such an approach might improve college education, today's high school seniors must select a college based on existing conditions. Below are AIMS' criteria for selecting a college whose academic standards are likely to be challenging but not unrealistic; where the student will have to work hard but will gain knowledge at a commensurate rate.

Realize in reading these rules that we are being very biased. Each year, particularly in the month of June, we have to deal with those who failed their freshmen year. We know how deeply this can affect a youngster. Our goal is to decrease the chances of this usually unnecessary tragedy for you or your children. Sometimes the schools which meet these criteria are unpopular with our clients or their parents and we are given examples of siblings or friends who did well at other, preferred, colleges despite low test scores. We know about these exceptions, but we also know of many students who were hurt by a bad choice. Consider, for example, the young woman who went to a prestigious school with an average SAT verbal level higher than her own. She earned good grades by working very hard, but not good enough for the graduate work she had intended to pursue.

If you go against these rules because of financial, parental, or other pressures, learn ways of compensating for the difference between the ideal and the actual. If the college is too hard, make certain that you have good study habits, choose good instructors, and schedule manageable course loads each semester. If the school is too easy, take a heavy work load, seek honors courses, take a part-time position as a research assistant in one of the academic departments, or get involved in extra curricular activities.

Here are the rules:

1. Using your SAT or ACT verbal score (or your AIMS prediction of these scores), review the average scores for the freshmen at the colleges you are considering. *Barron's Profiles of American Colleges, Volume 16* offers a quick reference to this data and includes a breakdown of all four-year colleges into broad ranges of academic competiveness. *The College Handbook* lists the range for the middle 50 percent of freshmen on the college entrance examinations. A number of other references present other useful data.

2. Select colleges whose average score is close to your actual score. If possible, restrict your choices to schools whose average score is no more than 40 points higher or 60 points lower than your score on the SAT or 2 points higher or lower than your score on the ACT. If you go to a college where you are at or near the median vocabulary, it is almost as if the college had been designed specifically for you. Lectures are delivered at your vocabulary level. Textbooks are written at your level. You can learn more with the same amount of effort.

3. If the information is available, find the range of the middle 50 percent of previous freshmen classes. Make certain that you are inside or close to this range. For example, suppose Jane's ACT score is 22. College A has an average ACT of 19; College B, 18.5. However, the top quarter of students at College A score 21 or above, while at College B, the highest 25 percent score 24 or above. We believe College B would be a safer choice for Jane.

4. Remember size is also important. See *Aims Research Bulletin 18*. The ideal college should match your Perceptual Speed requirements as well as your general vocabulary level.

5. If you have decided on a college major, realize that this can slightly modify the recommendations above. Certain majors within a particular university may average as a group significantly higher or lower than the student body as a whole. Education majors are often 25 SAT points below the overall average and business majors perhaps 10 points below. Engineering majors and those in the humanities are often above the general average. If this factor could make a difference in your decision, try to obtain specific information from the colleges or universities involved.

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