

# **Factors in Choosing Landscape Architecture as a Major: A National Student Survey**

Matthew N. Powers

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Approved:

Dr. Patrick A. Miller, Chair

Dr. Toni Calasanti

Terry Clements

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(ABSTRACT)

The profession of landscape architecture is expected to experience expanded growth in the future while at the same time student enrollment in landscape architecture programs is thought to be declining. This dilemma could lead to a decline in services and growth due to a lack of qualified landscape architects available to meet demands. This study's research objectives include providing baseline information regarding current landscape architecture students decision to major in landscape architecture and to describe influential factors and reasons associated with the decision to major in landscape architecture.

The design of this study is descriptive with data obtained from a questionnaire. The questionnaire design was based on a review of literature, faculty consultation, and pretesting. The questionnaire was distributed with the help of contact instructors who volunteered to aid in this study. The questionnaire was given to students and collected by the contact instructors before being mailed back by mail to the researcher. Several statistical tests have been used to evaluate the data. This study will present the findings from the data analysis and outline implications for students, landscape architecture programs, and the profession.

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# Chapter I

## Introduction

### **Problem Statement**

The September issue of Landscape Architecture News Digest (LAND 1999) contained a report from the United States Department of Labor stating that the profession of landscape architecture is growing at a rate faster than the national average of 4%. This news is tempered by a 1999 American Society of Landscape Architects (ASLA) study, also described in the same September LAND article, that notes a declining number of landscape architecture students graduating from programs across the country. It is evident, that landscape architecture programs need to graduate more students per year in order to meet the expected increase in demand for landscape architectural services. Failure to increase the number of graduates poses this problem: if the need for qualified landscape architectural services is not adequately met in a reasonable time, potential clientele will have look to other professions to meet their needs.

To ensure that landscape architecture programs increase the number of students they graduate each year, more students will need to choose landscape architecture as their major. Departments will need to market their programs and create recruiting strategies to help inform students about the potential rewards of landscape architecture and encourage them to enroll. Landscape architecture programs face the problems of very little accessible research into why students choose landscape architecture and how more students might be drawn into majoring in landscape architecture. Another problem is the lack of access to studies that include student perspectives.

A final concern for the profession of landscape architecture is its lack of ethnic, cultural, racial, and gender diversity. Currently, the American Society of Landscape Architects (ASLA) includes approximately 13,000 members. Of this number, 97% are

white and more than half (55%) are male. As the demographics of the United States shift to reflect the more diverse world population, landscape architecture as a profession shows no indication of keeping pace. The result is an ever-widening gap between the practitioners of landscape architecture and the changing face of those in need of services. It is important for the profession of landscape architecture to increase student enrollment and to pay special attention toward increasing representation of minority populations within the profession.

## **Need For Study**

The desire to increase student enrollment is not new for landscape architecture programs. Department administrators and other professionals have tried many strategies such as recruiting, college fairs, printed information, and workshops to increase awareness of landscape architecture. At the undergraduate level, the task of recruiting and informing students about a landscape architecture program is usually the responsibility of the university admissions or student affairs department and not the landscape architecture program itself. This study is important and timely because it provides needed baseline information about landscape architecture students that can be used by landscape architecture departments in their strategies to increase student enrollment.

## **Research Objectives**

The research objectives of this study are: 1) to provide a baseline description of landscape architecture students regarding their decision to major in landscape architecture, and 2) to explore and describe when and why students made the decision to major in landscape architecture.

This study obtains data and meets the stated objectives by administering a questionnaire to a national sample of college students currently enrolled in landscape architecture. The questionnaire structure is based upon a combined sociological and personality based approach, centered on five categories of factors that influence career



decisions (See Chapters II and III). Findings will be presented in terms of eight groupings of variables. A discussion will describe the findings and recommendations will be made.

## **STUDY LIMITATIONS**

This study is restricted to students who are currently majoring in landscape architecture. This study will not describe how to recruit students or list specific methods for doing so. This study describes what influenced this particular study sample only; therefore findings may not be identical for future students. This study will not tell why students chose not to major in landscape architecture. This study will provide baseline descriptive information concerning several personal and social variables as they relate to the decision of current students to major in landscape architecture. This study will not show how these variables influenced student decision-making, but will show which of the stated factors were most influential.

## **Thesis Organization**

The first chapter has identified the problem being studied in this thesis and the research objectives. In the next chapter, the literature review, I will discuss career development literature and the career decision-making process to help define the parameters of the study. In Chapter III, the methodology, I will provide a description of the population, sample, and method as well as describe how the data was collected. Chapter III will also explain the research procedures used in this study. Chapter IV, the findings, will describe the results of the statistical tests. Chapter V, the conclusions, will discuss the implications of the findings and list recommendations for future researchers.

# Chapter II

## Literature Review

### **Introduction**

The purpose of this literature review is to examine information and literature relevant to this study. A review of literature is important because it shows the evolution and present state of theory and research associated with an issue. A literature review gives the researcher a better knowledge of the field of inquiry, associated methodologies, gaps in research, and helps to narrow the problem. This literature review is divided into two sections that will describe: 1) career choice and development, and 2) the factors that influence the student decision-making process in regards to choosing a college major and career.

### **Career Choice and Development**

The process and act of making career decisions, for any given person, occurs at various times and stages throughout the total development of one's career. The decision to choose landscape architecture as a college major is only one of many career decisions in a larger career development process. Although the choice to major in landscape architecture does not necessarily mean one will become a landscape architect, McDonough (1997) notes that choice of major is a decision that does indicate the level or stage of an individual's career development at a specific point in their life. There are a variety of influences and factors that effect career choices throughout one's life span (Super, 1982). These influential factors include family, income, mentors, and race to mention only a few. However, before inquiring into specific factors, it is helpful to develop a conceptual framework of career development in which career decisions and their factors, including choosing a college major, can be viewed.

## **CAREER DEVELOPMENT APPROACHES**

There are many theories that attempt to explain career choice and development. These theories are represented by a variety of labels and models that can be categorized in many different ways (Osipow, 1983). A brief discussion of these relevant concepts and approaches and a description of how they have been synthesized into a framework for this study is provided below. It is somewhat uncommon for career development approaches and concepts to be independent of each other and they are therefore typically combined to achieve greater understanding of an issue (Osipow, 1983).

### ***Personality Theories and Approaches***

One group of theories and approaches for understanding career choice and development are personality theories. Osipow (1983) notes that personality theories and literature focus on the personality characteristics of people in different occupations and professions. This may include the lifestyles of various professionals, mental and physical requirements associated with professional activity, and the specific needs of workers in particular industries or jobs. Generally underlying these theories is the hypothesis that people choose their jobs and careers because they see potential for the satisfaction of their needs. Kerka (1998) proposes a corollary hypothesis stating that exposure to a job gradually modifies the personality characteristics of the worker. For example, architects eventually become like one another, if indeed they were not similar in personality to begin with.

Since landscape architecture is a broad field in terms job types, it is difficult to generalize about a particular personality, lifestyle, or specific need typical to any given landscape architect. Currently, there aren't any specific profiles of a landscape architecture student's personality type and its relationship to their professional decisions. Having a better knowledge of which aspects of the profession are of personal interest to students will help in understanding why students choose landscape architecture as their major and what job types they may seek later in the professional workplace. This study will not test a personality theory or students personality but will

show which future roles in landscape architecture are most congruent with the personal needs or desires of students.

### ***Sociological Theories and Approaches***

Sociological theories are another group of concepts and approaches used to describe career development and professional choices. Osipow (1983) says that these theories and studies have as a central theme the notion that societal circumstances contribute significantly to an individual's career choices. Some sociological approaches that focus on individual workers such as architects or project managers are known as individualistic approaches. Some individualistic approaches and theories are status attainment, functionalism, and human capital theory. Structural approaches look at processes within a larger structure. For example, in some cases the culture of a particular profession makes it difficult for single mothers to become successful unless they commit to accepted practices such as consistently working extra hours.

Many studies and books describe how landscape architects can affect society, but there are no empirical studies illustrating how a societal factor can affect a landscape architect over the development of his or her career. It is important to know what social factors are related to the decisions made by students and to what degree these factors were relevant in their choice of landscape architecture as a college major. With this information professionals can then begin to develop methods to mitigate or foster the most influential factors.

### ***A Combined Approach For This Study***

For the purposes of this study, neither a sociological or personality approach is fully adequate for obtaining general descriptive information about a largely unstudied population. In addition, it is not the intent of this study to test sociological and personality theories or models per se, but rather to draw upon these theories to develop a framework for examining the reasons students in landscape architecture choose landscape architecture as a major. Therefore, as a guiding framework for this study, a combination of important aspects of both approaches will be used. In synthesizing these approaches,

I evaluated the range of personality and sociological theories for their applicability to this study. For example, the combined approach might explore the relationship between a student and the encouragement of parents (social) in terms of the student's professional interests (personal).

The combined approach is used as a framework to look at the process of overall career decision-making and the important factors that influence decision-making in landscape architecture. Five important factors looked at with the combined approach are 1) family, 2) work, 3) access to information, 4) college choice, and 5) culture. Sociologically, each factor plays a special role in the decisions an individual makes by shaping their epistemology through a series of experiences and encounters with a socially constructed world. At the same time these experiences help shape the individual's self-concept and personality. For example, a young person growing up in a rural farm setting with artists for parents will provide the social context where personality is formed and decisions are judged.

The next section contains a brief discussion about the typical process many people go through when making career decisions. It is important that overall process be discussed before discussing the five factors influencing career decisions because each factor is commonly different for each individual but the context of the overall process is similar. Therefore, the career decision-making process will be discussed and then the five factors influencing the choice of landscape architecture as a major.

## **CAREER DECISION-MAKING PROCESS**

Ideally, deciding when to pursue a career in landscape architecture happens only after students explore their needs and desires and obtain at least a general understanding of what the profession is all about. The extent to which this happens is unknown and probably low. Although the impact of landscape architecture is wide, professionals in this country number less than 40,000 and only 46 accredited undergraduate programs exist. It can then be expected that many adolescents and young adults may not have enough early knowledge about the profession to make the choice of landscape architecture

as a college major. In addition, the smaller size of many college programs reduces the on-campus visibility and can thereby reduce an undecided student's chance of learning about landscape architecture. In order to effectively recruit people into the profession it is necessary to know when students decided to major in landscape architecture and the reasons surrounding this decision. This is important because knowing when and why can be used to develop strategies for introducing the most influential information pertaining to the profession to individuals at point in their career development in which they will be most responsive.

Pietrofsa and Splete (1975) explain the process of decision-making as one of risk-taking, relating personal values and experience to the information that has been gathered. The context in which career decisions are commonly made is dynamic: occupations are changing rapidly, society is becoming increasingly complex and multicultural, and individuals need to plan for diverging rather than converging career paths (Magnusson 1995).

As a growing profession, landscape architecture has moved into new job markets and expanded to include more types of work. The growth of the profession into new areas and increased visibility in others has increased the amount of knowledge a potential student must have if they are to make an informed decision about pursuing a career in landscape architecture. An important aspect of the career choice process is "when" a student makes the career decision to major in landscape architecture. This knowledge can help professionals know when to distribute career information and offer guidance to potential students at a point in time when the students will potentially be most receptive to it.

### ***When Are Career Decisions Made?***

Lock (1988) notes that in terms of choosing a college major, the choice becomes paramount from adolescence through the teenage years, but can continue to be prevalent throughout overall career development as needs change. Regardless of one's experiences or age at the time a decision is made, there are times each individual must face the basic

question: What will I do? Such decisions may be made through learned behavior or simply by not taking an action at all. Slocum (1974) describes a continuum of rationality with respect to professional decision-making, noting that some decisions are made solely on the basis of impulse and some by being fully rational. Choice of which decision to make is usually a result of which ones satisfy social norms and standards or can aid in satisfying personal needs (Pietrofesa and Splete 1975).

## **Factors Influencing Decision-Making in Landscape Architecture**

The following section describes social and personal factors that can influence the decisions students make about their careers; including choice of college major. It is important to know how certain factors can influence career choice because the information gathered from each of the factors form a basic guide for inquiring into student choices. For example, given the importance of family encouragement in career choice, it then becomes important to inquire about family as a factor in career choice. This study will try to show that family or any other factor is the direct cause of a student's choice but it will indicate the elements of each factor that were influential in the choice to major in landscape architecture.

Pietrofesa and Splete (1975) notes that a single factor is usually insufficient alone and should be examined with other factors in order to obtain a complete understanding of the complex interactions various factors have during the career decision-making process. Five categories of factors that influence decision-making will be discussed in this section. They are: 1) family, 2) knowledge of work, 3) information availability, 4) college choices, and 5) demographics. These factors were derived from an array of factors used in various sociological and personality approaches. Only those factors important to this study will be discussed.

### ***Family as a Factor***

Researchers in such diverse fields as child development, sociology, demography, and career development have long recognized that families play a major role in shaping

their children's educational and career decisions (Otto and Call 1985). Splete and Freeman-George (1985) list the following family influence factors that have significant effects upon an individual's career and education developmental processes: 1) geographic location, 2) genetic inheritance, 3) family background, 4) socioeconomic status, 5) family composition, 6) parenting style, and 7) parental attitudes toward work. The first four of these factors strongly effect an individual's physical and mental abilities, education and employment opportunities, and financial resources. The last three influences have been found to effect an individual's preference for certain types of interpersonal relationships, work attitudes, and willingness to pursue a non-traditional career (Splete and Freeman-George 1985).

Roe (1957) developed the personality theory of career choice by drawing upon psychoanalytical and personality literature then hypothesizing that occupational choice is the result of early childhood experiences. Acknowledging that individual differences are due in part to inheritance of genetic differences; Roe (1957) maintained that patterns of childhood experiences with parents, such as emotional concentration and avoidance or acceptance of the child, can influence the development of two basic orientations: 1) an orientation toward people, and 2) an "orientation not toward people". Individuals oriented toward people tend to choose careers in service, business, and art. Those individuals "not oriented toward people" choose scientific, technological, and non-people oriented fields. Because of the diversity of occupational types in landscape architecture, a professional may perform computer drafting in the morning, which can be considered "oriented not toward people", then in the afternoon meet with clients, which can be considered an "orientation towards people."

Middleton and Loughhead (1993) present three categories to describe types of parental involvement in career development: 1) positive involvement, 2) noninvolvement, and 3) negative involvement. They report that the greatest anxiety adolescents feel about their career decisions or exploration is in response to parents' negative involvement. Parents that demonstrate negative involvement are often controlling and domineering in their interactions with their children. Ultimately some children of such parents pursue



careers that will please their parents and not disappoint or portray disobedience towards them while others rebel against their families and perhaps society's wishes. Penick and Jepsen (1992) write, "adolescents from enmeshed families may have difficulty mastering career development tasks because they are unable to distinguish their own goals from parental goals and expectations" (p 220).

### ***Knowledge of Work as a Factor***

Knowledge of the work world and work experiences can have strong impact upon career decision-making. Work can be an important factor in choosing a career or college major because of the influence a previously held job and/or the visibility and encouragement of people in a related field can have on young people. A good way to gain information about a profession or occupation can be through doing related work or knowing someone that is involved in related job types. For example, an individual raised on the coast of Florida may have more opportunities to learn about marine biology than an individual from Iowa. Apart from geography (which is also a factor), the ability for an adolescent to know someone in marine biology is more likely and the immediate visibility of this profession in Florida can increase the availability of the information base available to students. Based on this one would expect that for landscape architecture, it is important to know what types of work can lead to increased knowledge about the profession and to what degree knowing someone in landscape architecture or a related field would help students in choosing to major in landscape architecture.

One-way work as a factor can influence career decisions is through apprenticeships and employment in a field that a young adult feels might be of interest to them. Apprenticeship requires partnerships between "educators, both secondary and postsecondary, and business people who are willing to provide jobs and worksite learning experiences for young people" (Joyce and Byrne 1995, p. 44). Related work and apprenticeships provide the advantage of taking students out of the classroom and exposing them to the rapidly changing work environment, complete with new technologies and new management processes. Undertaking an apprenticeship or doing work related to landscape architecture (i.e. - nurseries, garden centers, architecture offices

and others) allows students to learn new skills and investigate potential career interests. To understand career decisions related to landscape architecture, it is important to know what kinds of work are influential in helping students gain skills and information important to their career choice of landscape architecture.

### ***Access to Information as a Factor***

Access to career information resources is another factor in determining career choice. Information leads to career awareness and knowledge which, as Pietrofesa and Splete (1975) explain, includes an understanding of occupational and professional requirements and of the education and/or training involved in meeting those requirements. They describe various means to which an individual can attain this information and awareness. These means might include printed information such as books and college catalogues, Internet web sites, audiovisual aids, or people such as counselors, parents, family and relatives, and knowledge of someone working in a particular occupation. A final means for obtaining career information and knowledge is through actual experience such as visiting occupational settings, related work experiences, and apprenticeships.

The availability and types of information about landscape architecture is diverse but difficult to find. This is because very little marketing of the profession has been undertaken; the majority has been done by college programs and professional organizations. Again, though, the small size of the profession and relatively few undergraduate programs (46) can hamper the ability to both produce information about careers in landscape architecture and to properly distribute this material. The current lack of research pertaining to factors associated with the students choice of landscape architecture as a major also makes evaluating existing information for its usefulness and importance to the student decision-making process difficult. This study will describe what types of information students currently utilize and the importance of this information.

### *College Choice as a Factor*

Deciding to attend college and the selection of an institution are two decisions some individual's make during their career development that can strongly effect their future career opportunities. In most cases, to be considered a professional landscape architect, it is necessary to graduate from an accredited college program in landscape architecture. Therefore, a student must graduate from one of 46 accredited programs in the Unites States if they choose to pursue landscape architecture as a career. The choice of which college to attend, then becomes very important. If a student chooses or is forced to attend an institution without a landscape architecture program, then there is very little likelihood that individual will ever become a professional landscape architect.

The work of Leslie and Brinkman (1988) shows that the various decisions a student makes about college can have a lasting impact on their lives. McDonough (1997) says college choice can lead to increases in career opportunity, career mobility, higher salaries, longer working lives, and a higher quality of life. For high school students who are choosing a college, their academic achievement, class background, and geographic location will help shape their education and career opportunity structure because these things determine which college a student can actually go to. If an individual has received enough information to decide they want to become a landscape architect, then they must not only consider their academic achievement and socioeconomic resources, but they must consider these in terms of a select few universities. Also, if a student is attending an institution without a landscape architecture program, the likelihood they will transfer into an accredited program from another university or college is probably very low.

Hearn (1984) contends that students' and parents' perceptions, attitudes, and knowledge about college attendance may take on distinctive shapes for different social classes and races as early as the tenth grade and thus may produce differences in college planning for different families. For example, high socioeconomic students have been shown to take more college preparatory courses. Hearn (1984) also notes that poorer students realize that their limited income may prevent them from attaining long-range goals even though this may not always be their rational choice. For example,

economically poor students may choose careers that do not require graduate school or professional school but some continue their education in spite of their situation. Income also influences the student's beliefs regarding their employment probability (Leong, 1995). The geographic setting and socioeconomic environment that an individual comes from may limit their ability to attend those institutions with a landscape architecture program. Also, because a majority of the accredited programs in landscape architecture are 5-year professional programs, students from lower socioeconomic backgrounds may be unable to see themselves successfully completing five years or more of college and becoming a professional.

### ***Culture as a Factor***

Different cultures have different conceptions of family, gender roles, and family-work relationships. Carter and Cook (1992) contend that in some cultures, "career" may have a collective, not individual meaning. This may explain why some professions, which may require individualized work, may not appeal to certain cultures. Naidoo (1998) notes that "African Americans express greater salience in home and family than the work role" (p.23). Some literature such as Leong (1995) and Peavy (1995), point out the great diversity in worldview, ethnicity, and socioeconomic status within groups such as Hispanic, Asian, African, and Native Americans and how these differences effect the what types of work is acceptable and the manner in which work is to be done. For example, Kim (1993) notes Mexican American parents are focused on the role of continuing education in the career development process while Korean parents focus on career selection. "The strong desire of Korean immigrants for their children to become professionals and earn money and prestige is conveyed either in a rather demanding form or in a more subtle form that is just as clear" (p. 237).

Professional surveys such as the ASLA Salary Survey (1998) and The National Survey of Career Patterns among Women in Landscape Architecture (1983) illustrate the vast differences between the majority and minority populations in landscape architecture. The choice of a career involves access to information and opportunities that are not as easily attained by some people as by others due to culture, race, gender, and class. In

landscape architecture, minority groups make up less than 10% of the total professional population and less than 40% of the total profession is female (ASLA Salary Survey, 1998). If the profession of landscape architecture is to increase the diversity within the profession it will eventually need to determine the needs of different groups of people and how to best meet these needs as they relate to the profession. For example, if females find getting job opportunities in the nursery or landscape construction industry difficult because they are women, this will reduce their access to career information in terms of related work experience. In fact, it could also dissuade them from further considering landscape architecture as a career. This study will describe differences in social and personal choice based upon the race, gender, and class of students who have chosen to major in landscape architecture.

## **Conclusion**

The purpose of this chapter was to review literature and information that is important to this particular study. This literature review provides a theoretical framework that will be used to develop the research methodology used in this study. The choice to major in landscape architecture is only one of many decisions that an individual makes throughout the total development of their career and life. In order to understand why and when a student chooses to major in landscape architecture it is first necessary to understand the process of career development and decision-making that an individual might go through before choosing a career or major. The specific factors that influence an individual's career development and decision-making ability can then be understood in the context of overall career choice.

This study draws upon theoretical approaches that combine insights from both sociological and personality based research. Thus, the variables examined by this study are influenced by both social and personal factors. For example, the choice of majoring in landscape architecture is directly related to a student attending one of a limited number of institutions that have an accredited program. Many of the variables that can effect which college an individual chooses are social and many others are personal and some are both.

Therefore, a selection of both social and personal factors will be used as variables to help fully investigate the research questions of this study.

Five categories have been used to organize a selection of social and personal factors associated with the decisions made by individuals concerning their choice of major, including choice in college major. The five categories are: 1) family, 2) work experience, 3) information availability, 4) college choices, and 5) demographics. While there are other factors instrumental in career choice, this study focus on these five categories of factors because of their likely relationship to landscape architecture and the research questions.

From a review of literature specific to landscape architecture, it is apparent that very little research has been done concerning why landscape architects chose to become landscape architects. In fact, no studies were found that describe why and when students chose landscape architecture as their major. This study will begin to fill this gap by providing a baseline description of the influential factors involved in the decision-making process of landscape architecture students.

# Chapter III

## Methodology

### **Introduction**

The methodology chapter describes the methods used by this study to answer the research questions and why these particular methods were chosen. This chapter has four sections, which are: 1) study design, 2) study population, 3) data collection procedures, and 4) data analysis. The first section includes a discussion about the design of the study as it relates to the research questions. The first section also includes the reasons for choosing the instrument, pretest, and organization of the questionnaire. The second section includes a description of the population and the study sample. The third section includes the strategies used to distribute the instrument and collect the data. The fourth section describes the statistical tests used to obtain descriptive findings.

### **Study Design**

The emphasis of this study is on descriptive findings that have been obtained by means of a questionnaire. According to Huck, Cormier, and Bounds (1974), the purpose of descriptive research is to “describe things the way they are rather than to investigate a strict cause-and-effect relationship” (p. 18). The study was designed with the specific intent of achieving the research objectives discussed in the Chapter 1. The research objectives are: 1) to provide a baseline description of landscape architecture students regarding their decision to major in landscape architecture, and 2) to explore and describe when and why students made the decision to major in landscape architecture.

Henderson, Lyons Morris, and Fitz-Gibbon (1978) recommend that the objectives for the procedure be identified first before designing an instrument. It is important that the researcher understand exactly what information is to be obtained from the research method. There are three primary goals of the instrument to be used in this study which

will help to produce the information necessary for answering the research questions. They are: 1) determine the reasons when and why students chose landscape architecture as their major, 2) determine the individuals and factors associated with this choice, and 3) determine how certain associations might be similar or different between students because of race, class, gender, and other variables.

The determination of what data to collect was done by examining social and personal factors that effect the decisions some individual make about their careers, including their choice of college major. These factors have been put into five categories, as outlined in Chapter 2, to help organize the information gleaned from the literature review and to form variables which will further help to answer the research questions. The five categories of factors used to construct questions and variables are: 1) family, 2) knowledge of work, 3) information availability, 4) college choices, and 5) culture. A series of questions and variables have been derived from each of the five categories and put into the form of a questionnaire which will be used to obtain data.

## **WHY USE A QUESTIONNAIRE?**

Questionnaires and interviews are two possible ways in which information necessary to meet the research objectives can be obtained. A questionnaire is a series of written questions on a topic about which the respondent's opinions are sought. A questionnaire provides insight into people's beliefs, attitudes, values, and behavior (Sommer and Sommer, 1991). An interview can be used to access beliefs and opinions as well as personality characteristics. An advantage of interviews is that people who are unwilling to write out the answer to a question are often more willing to say it to an interviewer (Sommer and Sommer, 1991). Interviews often provide new information as well as clarity and meaning to older information.

For this study a questionnaire was determined to be the best instrument for collecting data. Henderson, Lyons Morris, and Fitz-Gibbon (1978) list some advantages to using questionnaires: "They permit a person a considerable amount of time to think about answers before responding. They can be given to many people simultaneously.



They provide greater uniformity across measurement situations than do interviews. Each person responds to exactly the same questions though interpretation can be a problem. In general, the data they provide can be more easily analyzed than the data received from oral responses” (p. 29). Another reason why questionnaires were used as a means of collecting data is that such self-reports are an acceptable means to obtain information about people’s attitudes (Henderson, et al., 1978).

While the use of interviews would provide a similar and perhaps deeper insight into student decisions, there are several reasons why a questionnaire was chosen over interviews. First, interviewing increases the likelihood that responses will be influenced by the interviewer’s latent content. This may cause the respondent to reply with answers they think are “right” due to the interviewer’s phrasing of questions or body language. This can be a problem with questionnaires as well because some students may interpret the phrasing of question differently and therefore respond to the framing of question itself (Sommer and Sommer, 1991). The large population and its distribution throughout the country make interviewing a sizable sample arduous and too logistically difficult for this particular study. The ease and efficiency of distributing and collecting a questionnaire also provides the least obtrusion for the contact professors volunteering their time and energy. Processing large amounts of data is also easier with a well-constructed questionnaire than with many other research tools.

## **THE QUESTIONNAIRE FORM**

The questionnaire had to meet three goals. Careful design of the form must ensure that 1) only necessary questions were asked, 2) questions were properly worded and terminology clear, and 3) questions must help meet the research objectives of this study. The following discussion will serve as a means of clarifying how these goals were achieved. For a sample of the questionnaire form and the coding sheet used for the questionnaire, please refer to Appendix A.

## ***Organization***

The structure of individual questions on the form was done so that the questionnaire format is as simple as possible but still able to collect information pertinent to the research objectives. The variables were grouped around the five categories of factors influential in decision-making. The five categories of factors around which questions and variables were grouped are: 1) family, 2) knowledge of work, 3) information availability, 4) college choices, and 5) culture. An explanation of why and how questions were grouped is included below.

It was essential that the questionnaire communicate to the students in a variety of ways. Therefore it was important that the questions and directions be clearly written and easily understood. In order to achieve this goal, several authors were referenced to for guidance concerning proper question format, sentence and wording recommendation, and organizational format (Dilman, 1978; Zeisel, 1979; Miles, et al., 1982; Sommer and Sommer, 1991; and Foddy, 1993).

The questionnaire was structured so that related questions were grouped together on the form. For example, questions about influences (questions #4-5) were presented together. This helped to divide the questionnaire into sections or groupings of logically connected variables, greatly simplifying data analysis and making it easier for respondents to “flow” through the form (Foddy, 1993). Two early questions (questions #2-3), requiring an open-ended response, were purposely placed at the beginning of the questionnaire so that respondents could explain their answers without yet reading the following questions containing potentially influential suggestions. As Zeisel (1979) notes, “early questions can influence the way respondents answer later ones” (p.160). Several researchers (Sommer and Sommer, 1991; and Miles, et al., 1982) recommend starting with general questions at the beginning of the questionnaire and ending with specific or demographic questions. Because questions #2-3 were open-ended without any specific choices or indications of how a student might answer, they were placed in the beginning of the questionnaire.

The questions after #2-3 and up through question #10 vary in structure between the likert scale ranking, rank-ordering of items, matrix rating, and general informational response formatting. In addition, students are given the opportunity to write-in answers or explain their answers regarding questions #4-10. The reason for this is because coupling several types of ratings and rankings, open and close ended questions, together on a questionnaire, can provide checks on each (Sommer and Sommer, 1991). These questions were meant to maintain the “flow” of the form and to eventually lead towards slightly more specific questions up until question #11.

The final section of the questionnaire form follows suggestions from Sommer and Sommer, (1991) and Miles, et al., (1982) as well as other researchers and ends by asking factual or demographic questions. Thus, questions #11-19, located at the end of the questionnaire are primarily close-ended questions, asking students about their hometowns, program year, financial aid needs, ethnicity, and other related information.

Two final aspects of the questionnaire were used to help simplify and clarify the form. The first aspect is intended to help introduce students to the study and the questionnaire by providing a title and short description written at the top of the form which generally states the purpose of the research study. Foddy (1993) and Sommer and Sommer (1991) both suggest the use of a title and brief introduction so that respondents can better understand the overall study questions and what is expected of them. Another important aspect of the questionnaire form was to help students understand the method of recording their responses. Students must know how to answer questions properly so that responses are uniform among the questionnaires, making coding easier and more accurate. To inform students on how to respond to questions, brief directions were given for each question or set of questions on the questionnaire (Henderson et al., 1978). For example, when a list of choices was given for a specific question, students were instructed to check all that apply.

### ***Pretest***

A pretest is a preliminary test of a research instrument done with a small sample of the population. It is intended to help troubleshoot the instrument by allowing the researcher to ask the sample group upon completion of the pretest about the instrument's format and potential problems. This is also important because, "the impressive economy of the questionnaire is partially offset by the researcher's inability to clarify the meaning of terms" (Sommer and Sommer, 1991, p. 138). The questionnaire used in this study underwent a pretest on February 4, 2000 to help reduce ambiguity and confusing questions. Eight undergraduate student volunteers from the Virginia Tech department of landscape architecture representing both 5<sup>th</sup> and 4<sup>th</sup> year students participated in the pretest and then took part in a short debriefing session. These students are not included in the final sample. During the debriefing session, students were asked about the form's content, layout, and clarity. The students found several small problems pertaining to the wording of questions and the available choices for responding to close-ended questions. These problems were fixed as necessary. The small sample chosen for initial pretest was found to be sufficient because no serious problems were found during the pretesting process (Sommer and Sommer, 1991) and only minor changes in the questionnaire were necessary. The questionnaire then underwent a review by the researcher's committee members and was subsequently finalized (See sample questionnaire Appendix A).

### **The Study Population**

The study population consists of landscape architecture students enrolled in one of 46 accredited baccalaureate programs in the United States that lead to a first professional degree. The reason undergraduate students were chosen is because of their unique perspective as students and their recent experiences with career decision-making. Graduate students have been excluded from the study population because of the potential differences between undergraduate and graduate student reasoning for obtaining a first professional degree in landscape architecture. In addition, the specificity of a master's degree increases the difficulty of making population generalizations.

According to the American Society of Landscape Architects (ASLA), there are approximately 4500 undergraduate students enrolled in the 46 accredited programs combined (Ron Leighton, ASLA). A list of these accredited schools can be found in Appendix A. The accreditation of programs is important because it allows the ASLA to evaluate each program on the basis of its stated objectives and compliance to externally mandated standards. Selecting only accredited programs then helps to assure that the study population is similar due to the need for all landscape architecture programs to meet certain criteria and standards. This does not necessarily mean that students from accredited programs have identical reasons for choosing landscape architecture, it only suggests that they as a group come from like settings in terms of standard exposure to the profession.

There are several different factors between programs in the population that may influence student choices and decision-making and ultimately the results of this study. These reason it is important to know the different factors among programs is so that what students indicate as influential in their choice of landscape architecture as a major, can be looked at to see if it is possibly a result of different factors associated with a program. Many differences that are related to the institution, such as location, cost, admission requirements, demographics, and Carnegie classification<sup>1</sup> may affect students across an entire student body attending a university despite their particular department or degree program. However, some specific differences in landscape architecture programs such as program size, mission or philosophy, curriculum, length (4 or 5 years), degree conferred (BLA or BSLA), departmental home (College of Architecture or College of Agriculture), and faculty interests may be important factors in choosing landscape architecture as a major. Currently, the effect of these factors on a student's choice of a program is unknown but certain program related factors will be explored by this study as they relate to overall college choice.

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<sup>1</sup> Carnegie Classification refers to an institution of higher education's research classification. The classification tells how much money each school earns in terms of research dollars and what percentage of doctoral graduates they confer each year.

## **POPULATION RESTRICTIONS**

Population restrictions were set on the study population to help ensure that the final respondents would be in similar stages of their respective programs. The restrictions are important because they narrow the population down into a specific group of students. The specificity of the restricted population is also helpful in designing an instrument with focused questions intended for this specific group of respondents. The first restriction to the study population is done to include only students in years 2 through 5 of a 5-year program or sophomore to senior standing for a 4-year program. These criteria were set to help avoid sampling students potentially in the process of transferring into or out of a landscape architecture program. The reason only sophomores or 2<sup>nd</sup> year and higher students have been chosen is because some 1<sup>st</sup> year students and freshmen must enroll in a college-wide foundation program. The foundation program is intended to group orient these students to both university life and the concepts and methods of design. For example, 1<sup>st</sup> year students from architecture, landscape architecture, and industrial design take class together in a common setting and not within their specific department. Another reason for focusing on students further along in a degree program is because of the likelihood that they have a greater conception of their specific program and the profession as a whole. The total number of students in the restricted population is approximately 3,600 students.

## **OBTAINING THE POPULATION SAMPLE**

A stratified sampling of students based upon the participation of landscape architecture programs was used to represent the population. The participation of programs was determined by contacting various instructors and department chairs at each of the accredited schools in the population and asking them for their assistance in this study. Faculty members and chairs were contacted through an email that explained to them the study and asked them for their assistance (See contact letter – Appendix A). It was very important to have the help of these instructors because they could directly distribute questionnaires to students in the population and see that they were returned in a timely fashion. Instructor assistance increased the response rate assured that questionnaires were completed in similar classroom settings.

Twenty-five professors from 18 different programs responded to the email indicating their willingness to participate in this study. Thus, the students of the participating professors form the sample population by virtue of their instructor's volunteering to aid in the study. The total number of students in the sample is 536 or approximately 15% of the population. These students represent 18 of the 46 accredited programs of landscape architecture or 39% of the total number of these programs. Table 1 displays the 18 landscape architecture programs participating in this study. The 536 students sampled attend these 18 schools.

**TABLE 1**  
LANDSCAPE ARCHITECTURE PROGRAMS IN THE STUDY SAMPLE

GEOG	CLASS	ENT	UNIV-SIZE	COST-I	COST-O	COLL	PRO
SE	RUII	C	15,000	10,400	15,400	ARCH	BLA
SE	RUII	C	21,800	11,200	17,000	ARCH	BLA
GL	DU1	LC	19,000	11,000	17,100	ARCH	BLA/MLA
FW	MUI	VC	16,300	10,800	18,200	ARCH	BSLA
SE	RUII	VC	16,700	11,900	17,900	ARCH	BLA
SE	RUI	HC	30,000	10,500	17,800	DES	BLA/MLA
PL	RUII	NC	20,900	10,100	16,700	ARCH	BLA/MLA
SE	RUI	VC	24,000	10,200	16,100	AG	BSLA
SE	RUI	C	30,500	9,600	13,800	DES	BLA/MLA
GL	RUI	LC	43,100	11,200	18,600	GEOG	BLA
SE	RUII	VC	15,700	10,300	13,400	AG	BLA
GL	RUI	VC	48,500	14,000	20,700	ARCH	BSLA/MLA
SW	RUII	VC	20,300	10,900	14,900	AG	BLA
ME	RUI	HC	41,100	14,200	21,300	ARCH	BLA
NE	RUII	C	14,300	13,500	21,700	ENV	BLA
RM	RUI	NC	19,300	9,900	14,600	ART&SCI	BLA/MLA
SE	RUI	VC	27,600	11,700	19,800	ARCH	BLA/MLA
SE	RUI	C	22,200	10,500	15,900	AG	BSLA

\***GEOG:** Geographic location – SE (Southeast), GL(Great Lakes), FW(Far West), PL (Plains),SW(Southwest), ME(Middle East), NE(Northeast), RM (Rocky Mtn.)

\***CAR. CLASS:** Carnegie Classification of institutions

\***SEL.:** Selectivity of Enrollment

\***UNIV. SIZE:** Size of the university in which program is located

\***COST I/O:** Cost of the university for I(in-state tuition), O(out-of-state tuition), room, board, books, other expenses

\*\***COLL:** The academic home of the program – AG(Agricultural College), ARCH(Architecture), GEOG(Geography), ENV(Environmental), DES(Design), ART/SCI(Arts & Sciences)

\*\***DEGREE/S:** Degree or degrees conferred – BLA/BSLA and/or MLA

\*\*\***PROG. SIZE:** Size of program based upon restricted study population stipulated in this study

\* This information was obtained from the National Center for Education Statistics (1999).

\*\* This information was obtained “Schools” section of ASLA web site at [www.ASLA.org](http://www.ASLA.org) (2000).

\*\*\*This information was obtained from the each program’s department (2000).

## **Data Collection Procedures**

It is important to develop procedures for distributing the research instrument and collecting data because it provides a framework upon which the researcher's timeframe and methods of the data collection can be viewed. Establishing a procedure also helps to coordinate the distribution and collection of questionnaires amongst a population largely spread across the country, helping to attain a good response rate. One final reason data collection procedures were established is so that uniformity can be maintained between programs, resulting in more reliable information.

It is usually necessary to gain permission for collecting research data. This is to ensure that respondents have willingly agreed to participate in the research and that the research itself does not pose potential harm to respondents. For this study, permission was obtained by the researcher through affirmative email responses from the department chair of each program represented in the sample and at least one faculty member from each of those programs. Twenty-six faculty members from 18 programs agreed to help in the study. In addition to this, permission to collect data was also given by the Director of the Office of Sponsored Programs at Virginia Tech.

A packet was prepared for each of the 18 programs in the sample and sent to the faculty contact person. The packet is important because it contains all the information necessary for any given faculty volunteer to properly distribute the questionnaires, collect and return them. By sending identical packets to all the programs, uniformity can again be maintained among procedures and programs. The packets were sent on February 12, 2000. Each packet contained:

1. A short letter of instruction for the instructor that would be distributing the questionnaire. This letter was important because it outlines the procedures and describes what is expected of the instructor. It asked the instructor to administer the questionnaire to their students at either the beginning or ending 10 minutes of their class and to read to their students a brief explanation provided to them



- stating the purpose of the study. It also asked the instructor to immediately collect and return the data by no later than February 25, 2000.
2. A postage-paid envelope labeled for return to Virginia Tech. This was included to help facilitate the rapid return of the data by making the return of the questionnaires as simple as possible.
  3. An appropriate number of questionnaires for each program. The contact instructor and/or department head had previously, on their email expressing their willingness to help in this study, indicated this number.

The collection of data proceeded over a four-week period beginning February 16, 2000 and continuing until March 10, 2000. By the end of the collection period on March 10, all 18 schools or 100% of those participating had reported.

### **Data Analysis**

After all the questionnaires were returned the data were analyzed. Data analysis is important because it uses the numbers and facts generated in the questionnaire to suggest a story about the results. In this study, data were analyzed through the use of descriptive statistics. The use of descriptive statistics was employed to describe or indicate the parameters common to the population. The descriptive statistics used in the analysis of the data were frequency, mean, and correlation. In order to facilitate the analysis of the data, the computer program SPSS (1995) was used.

Frequency distribution and cumulative frequencies were a primary method of analysis for the different types of data obtained from the questionnaire. Knowing the frequency of scores and responses is important because it shows how many respondents have chosen or picked a certain variable. From this information, student feelings about the importance of certain variables can be implied. For open-ended questions, the responses were coded and categorized before being measured.

The mean measure of central tendency was used to provide information regarding the average number of students associated with certain variables. Since there are very few

extremes among scores of the respondents and because the mean measure varies less among samples drawn from the same population (Sommer and Sommer, 1991), it was chosen as an appropriate means of examining the data.

The correlation of continuous data using the Pearson product-moment correlation test was used to find the association between different responses or scores. All the variables in the study were checked with one another to see if there was a correlation. As suggested by Sommer and Sommer (1991), for any appropriate test results: “.8 and above is considered a high coefficient of correlation, .5 is moderate, and .3 or below is a low coefficient” (p. 115). For example, a .55 would represent a moderate or fair chance that the variables are related.

## **Summary**

This approach of this study is descriptive in which data collection is accomplished through the use of a questionnaire. Determination of what data to collect was done based upon the research questions. The research objectives are: 1) to provide a baseline description of landscape architecture students regarding their decision to major in landscape architecture, and 2) to explore and describe when and why students made the decision to major in landscape architecture. Based upon the literature review, five categories of factors influential to career decision making were created. These five categories have been used to construct questions and derive variables for the questionnaire. The five categories of factors are: 1) family, 2) knowledge of work, 3) information availability, 4) college choices, and 5) culture.

The study population consists of landscape architecture students in years 2 through 5 in a five-year accredited program or students of sophomore through senior standing in a four-year accredited program. Freshmen and graduate students have been excluded from the population. The study population was chosen as such because it includes students that have probably settled on landscape architecture as their major but have yet to graduate. The final sample consists of 18 programs and 536 students. The

next chapter contains descriptive data concerning the sample and the findings resulting from the statistical tests.

# Chapter IV

## Findings

### **Introduction**

This chapter describes significant findings from the data analysis related to student's choice to major in landscape architecture. The findings are organized around the five categories of factors associated with career decision-making (see chapter II). The five categories are: 1) family, 2) knowledge of work, 3) information availability, 4) college choice, and 5) culture. The chapter begins with a description of the questionnaire respondents, the landscape architecture student sample. It then describes findings in relationship to a logical decision-making process related to choosing landscape architecture as a major. The factors influential in career decision-making are presented in four sections. These four sections are sequentially similar to the decision-making process of landscape architecture students. The four sections are: 1) questionnaire respondents, 2) role of family in student choice, 3) factors relating to when and why students chose landscape architecture, and 4) institution choice and future career choices.

The first section describes the landscape architecture student sample. The first section is comprised of variables derived mostly from cultural factors influencing student choice. In the second section, student families and their socioeconomic and educational level is reported as well as the influence and encouragement of family members. The second section focuses on variables derived from family factors influencing student decision-making. The third section contains findings related to when and why students chose landscape architecture and the influential factors associated with this choice. Variables in the third section are derived from both informational and work related categories of factors associated with student decision-making. In the fourth section findings related to institution choice are reported along with post-graduation plans. The fourth section contains variables derived from college choice factors influential in student decision-making. Finally, significant findings are summarized and the chapter is concluded

## **The Landscape Architecture Students – Race and Gender**

The respondents in this study represent approximately 27% (n=536) of all landscape architecture undergraduate students within the population. These students attend 39% (n=18) of all the accredited undergraduate programs in landscape architecture throughout the United States (see Table 1, Chapter II). The sample size is sufficient considering the size of the population and distribution of students in a variety of program types and locations (Sommer and Sommer, 1991).

The two most significant demographic findings concerning landscape architecture students are disparity in gender and lack of ethnic diversity. Among students, men outnumber women by more than 2 to 1. Findings indicate that 69% (n=368) of students are male and only 31% are female. This is not surprising since the profession has always had a disproportionate number of male landscape architects. Currently, the American Society of Landscape Architects (ASLA) membership is only 24% female, a number that has stayed constant for several years (ASLA Salary Survey, 1998). However, the sample of this study shows 7% more females enrolled in landscape architecture programs than there are female members in the ASLA. This suggests that either fewer women become members of the professional society or that women can be expected to represent a higher proportion of practicing professionals in the future. In all of the 18 undergraduate programs surveyed, men outnumber women. Four programs (n=4) have between 40% and 45% female students. However, women are still underrepresented when compared to national figures for all college graduates. The majority, 55% (n=649,000), of all students that graduated in 1998 with a bachelor's degree were women (National Center for Education Statistics, 2000).

The lack of cultural and ethnic diversity is a problem for the profession of landscape architecture. The problem is not limited to low numbers of people but more importantly the inclusion of diverse voices and perspectives. According to the ASLA, 96% of its members are white. This study finds 90% (n=481) of student respondents

describing themselves as white (non-Hispanic). A number 6% lower than the percentage of white ASLA members. This suggests that either a lower percentage of minorities choose to join the ASLA or that there will be a slight increase in minority representation within the profession.

While the overall percentage of non-white respondents represented in this study is slightly higher than previous ASLA reports, it fails to match national averages of minority enrollment. Nationally, African American students accounted for 10% of the total enrollment at colleges and universities in 1995. Hispanics made up 8% of enrolled students; Asian/Pacific Islanders, 6%; and Native Americans 1% of all students enrolled at colleges and universities in 1995 (National Center for Education Statistics, 2000). In this study, the percentage of Native American, Asian American, and African American students in landscape architecture was 1.5% (n=8 for each group) for each of the three groups (see Table II). In addition, 2.2% (n=12) of study respondents describe themselves as Hispanic or Latino. This indicates that minorities enrolled in landscape architecture, except Native Americans which are actually 0.5% higher than the national average, generally fall far below the national average. A significant number of students in this study (2.8%, n=15) identify themselves as multiethnic or biracial. Most previous studies have not provided multiethnic or biracial as a category for choice and therefore this number cannot be compared to any previous demographic studies conducted by the ASLA or the Department of Education.

**TABLE 2**  
RACE/ETHNICITY OF RESPONDENTS

<u>RACE/ETHNICITY</u>	<u>Number</u>	<u>Percent</u>
Native American, Inuit, or Aleut	8	1.5
Asian, Asian America or Pacific Is.	8	1.5
Black or African American	8	1.5
Hispanic or Latino	12	2.2
Multiethnic or Biracial	15	2.8
White (non-Hispanic)	481	89.7
No Answer	4	.7
	-----	-----
	Total	536
		100.0
Valid cases	532	Missing cases
		4

## **The Role of Parents in Student Choice**

Parents play a special role in the career decisions their children make throughout their lives. Parental involvement and influence over future career choices begins at a very early age. The involvement of parents can strongly effect an individual's physical and mental abilities, education and employment opportunities, and financial resources. Parents have been found to effect an individual's preference for certain types of interpersonal relationships, work attitudes, and willingness to pursue a non-traditional career (Splete and Freeman-George 1985).

Most landscape architecture students come from families with similar income, education, influence, and encouragement. Findings indicate 61% (n=303) of landscape architecture students come from a family or have parents whose annual income is 60,000 dollars or more. In addition, 33% (n=160) of the respondents families make between 20,000 and 60,000 dollars annually. Only 6% (n=31) of respondents families make 20,000 dollars or less annually.

According to "The Condition of Education" (Department of Education, 1998), families with incomes of 70,000 dollars or more have an expected family contribution (EFC) high enough to cover the price of attending any of the programs in landscape architecture without need for financial aid. Approximately half of all landscape architecture students in this study come from families that should have an EFC sufficient to cover college costs, however 74% (n=319) of respondents indicate financial aid is an important or very important consideration. Nationally, this may indicate the net cost of college increases rapidly. These findings may be skewed because the need for financial aid was reported by students that may not have identical definitions of financial aid nor have a real awareness of their finances because these matters are typically taken care of by their parents.

Many studies have shown that people with a postsecondary degree or higher typically have greater income levels than those with only a high school diploma. Since 57% of landscape architecture students come from families that make over 60,000 dollars, it is not surprising to find that only 12% (n=62) of all respondents were the first in their family to attend college. In addition, 70% (n=377) of landscape architecture students have at least one parent with a college degree. Mortimer et al. (1992) notes that parents with postsecondary education tend to pass along its importance to their children. Marso and Pigge (1994) shows that the presence of teachers in the family was a significant factor influencing teacher's candidates' decisions to teach. This raises two questions not asked in this study: what are the most common types of degrees held by the parents of respondents, and did the degree of a parent effect the student decision to major in landscape architecture?

Another way parents impact students during the decision-making process is through their influence and encouragement. In all, 43% (n=230) of the respondents indicated their parents as influential in their choosing landscape architecture as a major. Eighty-eight percent (n=471) of all students considered parental treatment regarding the decision to study landscape architecture as encouraging.

These findings indicate several things. Based upon the literature, it is not surprising that students in this study say their parents were influential and encouraging in their choice of major. In many cases, parents are very influential in the lives of their children and encourage them regardless of their college major. This study cannot show how parents influenced their children's choice nor indicate the point in a child's career development where parental influence is most effective. These would be important to know in order to establish a timeframe of decision-making. It is also important to know if parents were more or less encouraging about landscape architecture than with other majors their children might have pursued.



## **Factors Related to When and Why Students Made Their Choice**

So far, the findings have shown that the majority of landscape architecture students are white males with at least one college-educated parent and a family income of 60,000 dollars or more. Parents of children that decided to major in landscape architecture are said to be more influential and encouraging of the choice than any other group of people. In this section, the time when students tend to choose landscape architecture and the factors associated with making this decision are discussed. It is important to know when students choose to major in landscape architecture and the reasons associated with this decision so that a sense of when and how to approach students about joining the profession can be developed.

The majority of respondents, 55% (n=293), transferred into a landscape architecture program (see Table III). Since 30% (n=158) of all respondents did not even hear about landscape architecture until they were in college, it seems logical that a high number of students would transfer into landscape architecture sometime after enrolling in college. Of the 55% of students that transferred into a landscape architecture program, 17% (n=93) came from a related major and 37% (n=200) were from unrelated or undeclared majors. The findings further indicate that 15% (n=24) of students that heard about landscape architecture in college did so through a previous major and 14% (n=23) learned about the major through college friends. Other ways students heard about landscape architecture while in college were from an introductory landscape architecture courses, professors, orientations, and student displays.

**TABLE 3**  
**FIRST MAJOR OF CURRENT LANDSCAPE ARCHITECTURE STUDENTS**

<u>INITIAL MAJOR</u>	<u>Number</u>	<u>Percent</u>
Related field *	93	17.4
Non-related field	200	37.3
Landscape Architecture	241	45.0
	-----	-----
Total	536	100.0
Valid cases	536	Missing cases 0

\* Related majors include: architecture, civil engineering, horticulture, building construction, planning, and interior design.

Forty-five percent (n=241) of respondents say they began college in a landscape architecture major. Twenty-four percent (n=130) of respondents say they first heard about landscape architecture while in high school or earlier. This suggests that some students chose to major in landscape architecture despite a lack of knowledge regarding the profession prior to arriving at college. However, 21% (n=115) of students say that they heard about landscape architecture from college catalogues, television, or other media sources and 15%(n=80) say they learned about the profession from previous employment or by knowing a practicing landscape architect. It is unknown if these students learned about the profession through these informational or work related sources before or after coming to college and therefore it is difficult to determine when students in this study actually learned about landscape architecture.

Even though some students may chose to major in landscape architecture without much prior knowledge of the profession or after arriving at college, information is still a valuable factor in the decision-making process. Students indicated several specific informational sources as their method of hearing about the profession. These informational sources were obtained from a question regarding when student heard about landscape architecture. Some students interpreted this to mean how they heard about the profession instead of when and data was therefore coded accordingly. More information is need to reliably determine when and how students heard about the profession but for this study responses regarding both how and why are discussed where appropriate. Nine percent (n=49) of respondents learned about landscape architecture from reading the college catalogue or handbook. Five percent (n=24) heard about landscape architecture from aptitude tests, television, or other media sources. This indicates that information sources can increase awareness of a landscape architecture program. However, none of the respondents listed any specific information distributed by landscape architecture programs or professional organizations as important in informing their decision.

Sources of professional information considered by respondents to be more important than such general informational sources as media and catalogues, come from

college professors, practicing landscape architects, and related work experiences. Thirty percent (n=162) of respondents indicate college teachers and advisors as influential in their choice of landscape architecture. In addition, 78% (n=416) of respondents indicate that college professors provided encouragement in their choice of major. This does not explain when their encouragement was most important, only that they usually were encouraging. The influence of college teachers and advisors is important because such a high percentage (55%) of students transfer into the major at a time when contact with college professors is common. However, we do not know if landscape architecture faculty was influential in choosing the major or in supporting the decision to major in landscape architecture once made. These findings suggest that landscape architecture professors are good sources of information about the profession and are probably serving well as on-campus recruiters because of their influence and encouragement.

Nineteen percent (n=102) of respondents indicate that acquaintance with a landscape architect influenced their decision to major in landscape architecture. This finding suggests that landscape architects can have a significant effect on the career choices of the people they meet, at least those who did select to major in landscape architecture. Furthermore, 55% (n=293) of respondents indicate a practicing landscape architect was encouraging in their decision to major in landscape architecture. In addition, 17% (n=89) of respondents learned about the profession from work in a related field. Eight percent (n=45) of students with prior work experience, cite a landscape architect as the direct source of their information about the profession. Together these suggest that landscape architects do have a significant effect on the career choices of young people toward landscape architecture.

There are several influences, other than the influence of people, associated with students decisions to major in landscape architecture. These influences relate to specific aspects of the profession that appeal to students. One influential reason for choosing landscape architecture as a major, indicated by 70% (n=376) of the respondents, is the opportunity to improve the landscape. This suggests that more of the landscape architecture students consider helping improve the landscape more important than the

opportunity to earn a good salary. Less than 36% (n=191) of respondents identified a good salary as important in choosing landscape architecture. However, this doesn't mean students are unaware of the need for future employment opportunities. Fifty-two percent (n=281) of respondents indicate future employment opportunities as an influential reason for their majoring in landscape architecture. Research indicates that students from certain class backgrounds probably already assume they will become professionals and make decent money. This suggests that while the majority of landscape architecture students want to improve the landscape, many perhaps did not identify other influences on the questionnaire because these are assumed to be part of being a professional.

The profession of landscape architecture is diverse in terms of the types of work one can do. For example, landscape architects work on projects ranging from small scale residential design to town master planning. Given the opportunity to indicate a range of reasons to select landscape architecture, 36% (n=193) of respondents indicate that they decided to pursue a degree in landscape architecture because of the wide range of opportunities in the profession. Fifteen percent (n=78) of respondents indicate that the opportunity to pursue art and design was important in their choosing landscape architecture as a major. Eight percent (n=41) of respondents like the outdoors and nature while 5% (n=25) indicate golf as important in their choice to major in landscape architecture. The other 36% (n=199) had very different and specific reasons for majoring in landscape architecture including many who say they just liked the major.

## **College Choice and Future Career Decisions**

This section discusses the factors considered important by students when deciding to attend their current institution. Because every student wanting to become a landscape architect must graduate from one of 46 institutions, it becomes very important that students find the overall institution appealing and the landscape architecture program inviting. Since 55% of the students in this study transferred in to landscape architecture and only 22% of students say they heard about the profession prior to college, if a

student chooses an institution without a landscape architecture department, then the probability of that person becoming a landscape architecture is unlikely. If we know what landscape architecture students consider important factors in choosing a college, we can then see what potential students look for in an institution and program. This can help to establish recruiting plans and adjust the attributes of a program if necessary. This section also reports the post-graduation plans of students. This is important to know because it suggests what areas of the profession are most appealing to students. This information can be used to attract potential students that might want a similar lifestyle or type of job. However, it is not uncommon for landscape architecture students have interests in a variety of aspects of the profession and to change interests over time.

Most students, 84% (n=451) indicate the quality of the institution as an important factor in their choice of college. This was followed by 80% (n=431) of students that consider geographic location important and 72% (n=386) that indicate cost as important in their choice. Specifically, in terms of landscape architecture programs, 76% (n=405) of students considered the quality of teachers when choosing their college and 71% (n=380) considered the reputation of the landscape architecture department as an important factor in their college choice. Since only 45% of respondents began college in a landscape architecture program, it is unlikely that more than 45% of students would have investigated a program's teachers and department reputation prior to coming to college. It is more likely that since students answered the questionnaire several years after their decision to major in landscape architecture was made, they identified that which should be important in considering a school even though they probably did not consider these factors themselves.

These findings suggest that students deciding upon a college consider the overall quality of the institution, teachers, and department important. This indicates prospective students do pay attention to the department and its faculty and students even before deciding to come to college. The geographic location of the university is also important in deciding which college to attend. This could be because students are very concerned about the location of the school they attend but it could also be attributed to the need for

students to stay close to home due to financial need, in-state tuition, or family commitments. Other than the 80% who say that they considered it, the specific role location of landscape architecture programs has on students' decision to attend a college is unknown. Since most students do not choose to major in landscape architecture until they have already selected a university it may be of little significance in the initial choice for most students. Therefore, if potential students choose a school that doesn't have a landscape architecture program, they probably will never major in landscape architecture.

Of all respondents 62% (n=330) indicated the particular aspect of the profession that they would like to work in upon graduation was parks, recreation, and resorts. Urban design was seen as an attractive post-graduation focus by 50% (n=268) of students. Artistic expression through design was indicated by 47% (n=253) of the respondents as an area of the profession they would like to pursue upon graduation. Some students are more interested in construction and development as shown by the 47% (n=253) of respondents wanting to pursue design/build and 32% (n=173) interested in land development. Traditionally, most landscape architecture programs teach a technology sequence that covers basic construction detailing and building. Incidentally, both teaching and industrial/commercial design was indicated by less than 25% of respondents as something they would like to pursue upon graduation.

These findings suggest the areas of the profession students want to work in after graduation. Their choices could be because of the perceived future opportunities these areas have for meeting the personal needs and expectations of students. The findings could also be attributed to the emphasis different programs put on various types of professional development. This could persuade students to gravitate towards those areas of the profession that their instructors focus on. In the case of land development and design/build there may be alternative reasons why so many students want to work in these areas, specifically the potential for a high income.

## **Conclusion**

The data confirm that most students who major in landscape architecture are white males. Parents are reportedly associated with a student's choice of landscape architecture as a major and parents are also said to be very encouraging in this choice after it is made. Most students chose the major because they say they want the opportunity to improve the landscape, and they see a good chance for future employment in landscape architecture. Within the sample, the majority of students in landscape architecture transferred into their program from other majors. Students beginning in landscape architecture say that they considered the quality of their institution and its teachers as important in choosing their college. The cost of a school and its geographic location can also be an important consideration for students when deciding which university to attend. College teachers and practicing landscape architects are influential in a student's decision as well as being good providers of encouragement. Finally, most students want to work in the area of parks, recreation, and resorts. Also, art in design, design-build, and urban design are areas many students plan on working in upon graduation.

The next chapter, conclusions, contains a brief summary of the study, a discussion of the findings, implications, and recommendations for future research.

# Chapter V

## Conclusions

### **Introduction**

This chapter summarizes the important findings of the study and then explains the implications of the study in terms of the landscape architecture profession. This chapter is divided into two sections. The first section will provide a brief summary of the study purpose, objectives, research procedures, and data analysis. The second section provides a discussion of significant findings and implications as they relate to students, landscape architecture departments, and the profession. The need for future research or study as it relates to this thesis is also included in the second section. Finally, the chapter is concluded.

### **Summary of Study**

The profession of landscape architecture is expected to experience expanded growth in the future while at the same time student enrollment in landscape architecture programs is thought to be declining. There are several problems posed by this dilemma, such as a potential decline in services and growth due to the inability of the profession to meet current demands because of a lack of qualified landscape architects. This study's research objectives include providing baseline information regarding current landscape architecture students decisions to major in landscape architecture and to describe influential factors and reasons that effected the decisions of current landscape architecture students.

An individual's decision to major in landscape architecture is only a single decision in the total development of one's career. Throughout the life span, an individual makes many career decisions that will affect their career development and life in general. To better understand career decision-making, a research approach combining sociological and personality-based theories and concepts has been used. Within the framework of this



combined research approach, five categories of factors potentially influential to the process of career decision-making have been outlined. The variables examined in this study were derived from the factors discussed in these five categories.

The design of this study is descriptive with data obtained from a questionnaire. The questionnaire design was based on a review of literature, faculty consultation, and pretesting. The questionnaire was distributed with the help of contact instructors who volunteered to aid in this study. The questionnaire was given to students and collected by the contact instructors before being mailed back by mail to the researcher. Several statistical tests have been used to evaluate the data. There are many findings from the analysis of the data that are important to the research objectives. Conclusions based on the study findings are included below.

## **Discussion of Findings, Implications, and Future Research**

Most landscape architecture students are white males from families that have at least one parent with a college degree. The small numbers of minorities represented in this study and the profession in general indicate the need for further research concerning the decision-making process of minorities. Focused interviews with various minority groups would lead to a better understanding of the factors associated with the decision of minorities to choose or not choose landscape architecture as a major. One way minorities can be targeted for recruitment is to initiate introductory courses of landscape architecture at schools that have predominately minority populations. For example, some Historically Black Colleges and Universities (HBCU) have architecture departments and may be appropriate places for offering an introductory course in landscape architecture or for providing general information about nearby landscape architecture programs. The American Society of Landscape Architects could begin a feeder school program that allows students to pre-major in landscape architecture at small colleges or HBCUs and then transfer to a larger institution with a landscape architecture program.

More than half of respondents come from families with an income of 60,000 dollars or higher. The United States Department of Education estimates families with incomes of 70,000 or higher shouldn't need federal financial assistance to send their child to a public four-year college or university. Most landscape architecture students pay in-state tuition and perceive financial aid to be important or very important for the continuation of their current studies. The perceived need for aid is great despite the relatively high-income levels of immediate family or parents. Students also say that the cost of school, availability of financial aid, and its geographic location were important considerations in their overall choice of institution. The importance of financial aid and geographic location indicated by respondents is probably important to most any college student, but if students are restrained by their financial situation or they need to stay in a certain geographic area, the number of schools a person can attend is limited. Since there are only 46 undergraduate programs across the country it is important that all students have the opportunity to attend one of these universities. Programs like the academic common market and various exchange programs can help students attend a school with a landscape architecture program despite their location and out of state cost.

One of the biggest constraints of future growth is the potential student's overall lack of knowledge and awareness about the profession. Findings from this study suggest that most students transferred into landscape architecture from other majors. Some transferred because of dissatisfaction with their previous major, others because they did not know enough about the landscape architecture major until they got to college. In some cases, students did not even know what landscape architecture was until reading the college catalogue entry regarding the landscape architecture program. This implies that increased marketing and recruiting on college campuses can provide important information to students that might be interested in landscape architecture. Most students say that professors were influential and encouraging in their decision to major in landscape architecture. Future studies should be done to see how professors influenced student choices. On-campus marketing can be done through increased informational sources such as print information, student displays, interactive web sites, and presentations by professors. Recruiting on-campus should focus on students enrolling in related majors.

In many instances, information regarding incoming students and their initial major can be obtained from the university admissions office and then used to create a list of potential students to recruit. More research should be done to help provide information useful in the creation of effective on-campus marketing and recruiting plans and involving the reasons why students transfer into landscape architecture.

The high transfer rate into landscape architecture also suggests that marketing and recruiting aimed at high school students would provide valuable information to potential students and possibly increase the number of students enrolling in landscape architecture upon arrival to the university. A study of high school students in the process of making career decisions relating their future choice of college and major should be done to determine how landscape architecture is viewed by students before they have already received some instruction in a program. The need to inform potential students about the profession before coming to college is important because if a student does not choose to attend one of only 46 universities with a landscape architecture program, then the likelihood that they will transfer into landscape architecture is low. Most current landscape architecture students say they evaluated the universities they considered attending for quality of teachers and departments before committing to a decision. Evaluating a personal set of criteria before choosing to attend a university is probably true of any college student despite their major. For students that are determined to become professionals, the benefits and rewards of being a professional landscape architect, should be presented as an alternative.

Parents of landscape architecture students were influential and usually encouraging in their child's decision to major in landscape architecture. This reinforces the need for general awareness of the profession, so that more people, and more parents, will understand what landscape architecture is about and hopefully encourage their children to pursue it as a major. Practicing landscape architects could support local landscape architecture departments by providing information to their clients about available programs in a nearby landscape architecture department. Many students say that a practicing landscape architect was influential and encouraging in their choice of landscape

architecture. The landscape architect can increase professional awareness by presenting his or her projects to local schools and inviting young adults to take part in charettes. Through mentoring and apprenticeships, the local landscape architect can provide work opportunities that will introduce potential students to the profession. Many students say that prior work experience was influential in their choice of landscape architecture as a major. Future studies should be done to explore the ways a landscape architect can influence potential students at the local level. In addition, the American Society of Landscape Architects could sponsor programs aimed at fostering apprenticeships and mentoring opportunities.

Most landscape architecture students say they chose landscape architecture as a major because of the opportunity to improve the landscape. Based upon these findings, other reasons students say they choose to major in landscape architecture were the opportunity to incorporate art, architecture, and nature into their curriculum and employment opportunities upon graduation. A study that compares the findings of this study with the differences in various programs could be done to observe the impacts of a program's curriculum in relationship to student goals. For example, post graduation plans of students and their program's curriculum could be compared to see if students plan to focus on an area of the profession that is emphasized by their program. This is important so that the profession understands not only what clients see as "hot" fields but also what graduating students feel as attractive professional areas. The most common area of the profession in which students say they want to work after graduation is parks, recreation, and resorts. Students also say they are interested in working in such areas as artistic expression through design, urban design, and design/build. Possible reasons that students identified these areas instead of others are because they were emphasized in their program's curriculum or because of professional and economic trends in these areas. More research should be done to determine what areas of the profession are growing the fastest.

## **Conclusion**

The growth of landscape architecture is limited by the amount of students choosing it as their major. It is crucial for landscape architecture professionals to promote a student body consisting of quality individuals with diverse backgrounds and skills if future professional opportunities are to be taken. The profession of landscape architecture will need to know when, why, and how students choose landscape architecture as their major, so strategies fostering the growth of a diverse student body can be developed to ensure the health of the profession. This thesis is a beginning point for increasing the base of knowledge in landscape architecture regarding student decision-making and choice from the perspective of the student. Important factors associated with the choice of landscape architecture as a major, such as college choice, parental influence, diversity, access to information, and work experience, have all been shown in this study to contribute to the decision-making process of landscape architecture students. These factors are dynamic and complex even to the students. For a better understanding of these factors and the questions when, why, and how, a study should be conducted over a period of time to determine the causal effects of these factors on student decision-making in landscape architecture. In the meantime, current students, faculty, professionals, and others associated with the profession of landscape architecture should do all they can to promote the benefits and rewards of being a landscape architect to all people; especially those that will one day become the future of landscape architecture.

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# Appendix A

## Accredited Undergraduate Programs in Landscape Architecture

Arizona St. U	Iowa St. U	Pennsylvania St. U
U of Arkansas	Kansas St. U	Purdue U
Auburn U	U of Kentucky	U of Rhode Island
Ball St. U	Louisiana St. U	Rhode Island School of Design
Cal. Polytechnic St. U	U of Maryland	Rutgers – St. U of New Jersey
Cal St. Polytechnic U	U of Massachusetts	St. U of New York – Syracuse
U of Cal at Davis	Michigan St. U	Temple U
City College of NY	Mississippi St. U	Texas A&M U
Clemson U	U of Nevada, Las Vegas	Texas Tech U
Colorado St. U	North Carolina A&T St U	Utah St. U
U of Connecticut	North Carolina St. U	Virginia Tech
Cornell U	North Dakota St. U	Washington St. U
U of Florida	Ohio St. U	U of Washington
U of Georgia	Oklahoma St. U	West Virginia U
U of Idaho	U of Oregon	U of Wisconsin



# Appendix B

## Sample Questionnaire

### Landscape Architecture As A Career Choice: A National Survey of Landscape Architecture Students

The purpose of this survey is to gain information about the important factors that effect a student’s decision to choose landscape architecture as a career. The information will be used to help landscape architecture programs in their efforts to increase student populations to meet the growing demand. This information is confidential and will not be used for or against any individual or any institution. Thank you for your assistance.

1. Did you begin college with/in a landscape architecture major?  

YES
NO – What was it? (write below)
  
2. When did you first hear about landscape architecture? (Please explain below)
  
3. Why did you decide to pursue a degree in landscape architecture? (Please explain below)
  
4. Which of the following reasons were influential in your choice of landscape architecture as a college major? (Check all that apply)

<input type="checkbox"/> Opportunity to improve the landscape <input type="checkbox"/> Reputation of the profession <input type="checkbox"/> Future employment opportunities <input type="checkbox"/> Chance for a good salary		<input type="checkbox"/> Previously related employment <input type="checkbox"/> College recruiting efforts <input type="checkbox"/> Dissatisfaction with previous major <input type="checkbox"/> Other (explain):
---	--	--
  
5. Which of the following individuals were influential in your choice of landscape architecture as a college major? (Check all that apply)

<input type="checkbox"/> Parents/Grandparents/Siblings <input type="checkbox"/> Other relatives <input type="checkbox"/> Family friend <input type="checkbox"/> High school teachers/ Counselor <input type="checkbox"/> High School Friends		<input type="checkbox"/> College Professors/Advisors <input type="checkbox"/> College friends <input type="checkbox"/> Acquaintance with a landscape architect <input type="checkbox"/> Other (explain)
--	--	--
  
6. How have the following individuals treated you with regards to your decision to study landscape architecture? (Circle the best answer for each letter)

	<u>Encouraging(E)</u>	<u>Neutral(N)</u>	<u>Discouraging(D)</u>	<u>Does not apply(NA)</u>
A. Parents/Relatives	E	N	D	NA
B. High school teachers/Counselors	E	N	D	NA
C. A practicing landscape architect	E	N	D	NA
D. College teachers/Advisors	E	N	D	NA
E. College friends	E	N	D	NA
F. Other specific sources:				

7. How important were the following factors in deciding to attend your current institution/university?  
(Circle one for each letter)

	Very Important(5)	Somewhat Important(4)	Neutral (3)	Somewhat Unimportant(2)	Not Important(1)	Not Consideration(0)
A. Quality of teachers/professors	5		4	3	2	1 0
B. Perceived quality of institution	5		4	3	2	1 0
C. University recruiting efforts	5		4	3	2	1 0
D. Reputation of LA department	5		4	3	2	1 0
E. Geographic location	5		4	3	2	1 0
F. Demographic diversity	5		4	3	2	1 0
G. Cost of school	5		4	3	2	1 0
H. Financial aid	5		4	3	2	1 0
I. Parents/relatives	5		4	3	2	1 0
J. Friends	5		4	3	2	1 0
K. Length of LA program	5		4	3	2	1 0

8. Which of the following best describes the particular aspect of the profession or type of work you want to do after graduation? (Check all that apply)

- |  |  |
|--|--|
| <input type="checkbox"/> Artistic expression through design<br><input type="checkbox"/> Natural resource planning/management<br><input type="checkbox"/> Design for environmentally sensitive<br><input type="checkbox"/> Urban design<br><input type="checkbox"/> Land development<br><input type="checkbox"/> Design/build | <input type="checkbox"/> Industrial/commercial design<br><input type="checkbox"/> Historic preservation/restoration<br><input type="checkbox"/> Land use planning/policy<br><input type="checkbox"/> Parks/recreation/resorts<br><input type="checkbox"/> Teaching/professor<br><input type="checkbox"/> Other (Write Below) |
|--|--|

9. Before entering into the landscape architecture program did you know any landscape architects?

NO

YES – Please explain how you know this person

10. Do you believe you will pursue a career in landscape architecture upon graduation?

YES

NO (Why not?)

### THE FOLLOWING QUESTIONS ARE ABOUT YOU

11. What is your year/rank within your program? (Check only one)

•IF YOU ARE IN A FOUR YEAR PROGRAM:  Soph.  Junior  Senior  Higher

•IF YOU ARE IN A FIVE YEAR PROGRAM:  2<sup>nd</sup>  3<sup>rd</sup>  4<sup>th</sup>  5<sup>th</sup>  Higher

12. What is your gender? (Check only one)

Male

Female

13. How do you describe yourself? (Check only one)

Native American, Inuit, or Aleut

Asian, Asian American or Pacific Islander

Black or African American

Hispanic or Latino

White (non-Hispanic)

Multiethnic or Biracial

14. Briefly describe your hometown (what is the population, rural or urban)?

15. Which form of tuition do you pay? (Check only one)

IN-STATE

OUT-OF-STATE

16. What is the estimated combined income of your immediate family or parents? (Check only one)

- \$20,000 or less
- \$20,001 – 40,000
- \$40,001 – 60,000

- \$60,001 – 80,000
- \$80,001 – 100,000
- \$100,000 & above

17. Please indicate how important financial aid is to pursuing or continuing your current studies? (Check one)

- Not Important                       Important                       Very Important

18. Are you the first person in your family to attend college? (Check one)       YES                       NO

19. Are your parents college graduates? (Check all that apply)

- NO
- Yes (mother) – Highest degree earned:
- Yes (father) – Highest degree earned:

# Appendix C

## Sample Faculty Contact Letter & Reply

Professor Booth,

My name is Matt Powers and I am currently working on my thesis for the Master of Landscape Architecture degree here at Virginia Tech. On my thesis committee is Department Chair Dr. Patrick Miller, FASLA, Professor Terry Clements, and Professor Lee Skabelund. One or more of these people indicated you as someone that might be willing to provide me with some assistance. My thesis is concerning when and why students have chosen to pursue a career in landscape architecture. This work will provide insight into the perspective of the collective student and their influences and reasoning for which they based their decision to major in landscape architecture. This student profile will help faculty members and the landscape community to develop methods for recruiting, marketing, and simply "getting the word out" about our profession to potential landscape architects. To obtain this information I am conducting a national survey of students in the 3rd, 4th, or 5th year (junior or senior +) of their program. I would like you to distribute this to one of these classes in your department on my behalf. For example, it could be given out to the 4th or senior year design studio, 5th year professional practice, or a 3<sup>rd</sup> year technology course. I have attached a draft of the survey so that you may preview it. If you are willing to help, please send me the number of surveys you will require. I will send them to you with instructions and postage paid envelope for their return. I will send you the surveys around Feb 17 or 18 and would like the surveys to be given out on either February 21 or 22 and then returned. Pretests indicate that the survey takes less than ten minutes and can easily be given out at the beginning or end of class with little intrusion. All information will remain confidential and the use of specific names of institutions will be avoided. I will certainly provide you with a copy of the final report for your important help. Thank you for your time.

Sincerely,

Matthew N. Powers

mapowers@vt.edu

(540) 961-5069

Mailing address:

Virginia Polytechnic Institute and State University

Landscape Architecture Program

202 Architecture Annex

Blacksburg, VA 24061-0113

## **AFFIRMATIVE EMAILED RESPONSE**

Matthew,

I would be glad to help and will see to it that your survey is distributed to our juniors and seniors. Please send 75 surveys to me at Brown Hall,  
190 West 17th Avenue,  
Columbus, OH 43210

Norman Booth

# Appendix D

## Data Tables by Question

### Q11: (v50-51) WHAT IS YOUR YEAR/RANK IN YOUR PROGRAM?

<u>YEAR/RANK</u>	<u>Frequency</u>	<u>Percent</u>
sophomore	13	2.4
2nd	37	6.9
junior	45	8.4
senior	55	10.3
5th	84	15.7
4th	128	23.9
3rd	171	31.9
	-----	-----
Total	536	100.0

### Q12: (v52) WHAT IS YOUR GENDER?

<u>GENDER</u>	<u>Frequency</u>	<u>Percent</u>
female	167	31.2
male	368	68.7
	-----	-----
Total	536	100.0
Valid cases	536	Missing cases 0

### Q16: (v55) WHAT IS THE COMBINED INCOME OF YOUR FAMILY/PARENTS?

<u>FAMILY INCOME</u>	<u>Frequency</u>	<u>Percent</u>
20,000 or less	31	5.8
20,001-40,000	64	11.9
100,001 & above	93	17.4
40,001-60,000	96	17.9
80,001-100,000	103	19.2
60,001-80,000	107	20.0
No Answer	42	7.8
	-----	-----
Total	536	100.0
Valid cases	494	Missing cases 42

**Q2: (v62) WHEN DID YOU FIRST HEAR ABOUT LANDSCAPE ARCHITECTURE?**

<u>Value Label</u>	<u>Frequency</u>	<u>Percent</u>
art	1	.2
display	1	.2
place	1	.2
teacher	3	.6
orient	4	.7
golf	6	1.1
prof	6	1.1
tv	8	1.5
child	12	2.2
test	15	2.8
introlar	16	3.0
friend	23	4.3
premaj	24	4.5
family	29	5.4
work	35	6.5
info	38	7.1
knowla	45	8.4
cat	49	9.1
coll	84	15.7
hs	118	22.0
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**Q4: (v2-9) WHICH REASONS WERE INFLUENTIAL IN YOUR CHOICE?**

**(v2) Opportunity to Improve the Landscape**

<u>REASON</u>	<u>Frequency</u>	<u>Percent</u>
Not influential	160	29.9
Influential	376	70.1
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v03) Reputation of the Profession**

<u>REASON</u>	<u>Frequency</u>	<u>Percent</u>
Not influential	390	72.8
Influential	146	27.2
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v04) Future Employment Opportunities**

<u>REASON</u>	<u>Frequency</u>	<u>Percent</u>
Not influential	255	47.6
Influential	281	52.4
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v05) Chance for a Good Salary**

<u>REASON</u>	<u>Frequency</u>	<u>Percent</u>
Not influential	345	64.4
Influential	191	35.6
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v06) Previously Related Employment**

<u>REASON</u>	<u>Frequency</u>	<u>Percent</u>
Not influential	402	75.0
Influential	133	24.8
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v07) College Recruiting Efforts**

<u>REASON</u>	<u>Frequency</u>	<u>Percent</u>
Not influential	525	97.9
Influential	11	2.1
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v08) Dissatisfaction with Previous Major**

<u>REASON</u>	<u>Frequency</u>	<u>Percent</u>
Not influential	403	75.2
Influential	132	24.6
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0



**Q5: (v10-17) WHICH INDIVIDUALS WERE INFLUENTIAL IN YOUR DECISION?**

**(v10) Parents/Grandparents/Siblings**

<u>INDIVIDUALS</u>	<u>Frequency</u>	<u>Percent</u>
Not Influential	305	56.9
Influential	230	42.9
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v11) Other Relatives**

<u>INDIVIDUALS</u>	<u>Frequency</u>	<u>Percent</u>
Not Influential	490	91.4
Influential	46	8.6
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v12) Family Friend**

<u>INDIVIDUALS</u>	<u>Frequency</u>	<u>Percent</u>
Not Influential	472	88.1
Influential	64	11.9
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v13) High School Teachers/Counselors**

<u>INDIVIDUALS</u>	<u>Frequency</u>	<u>Percent</u>
Not Influential	476	88.8
Influential	60	11.2
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v14) High School Friends**

<u>INDIVIDUALS</u>	<u>Frequency</u>	<u>Percent</u>
Not Influential	509	95.0
Influential	27	5.0
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v15) College Professors/Advisors**

<u>INDIVIDUALS</u>	<u>Frequency</u>	<u>Percent</u>
Not Influential	374	69.8
Influential	162	30.2
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v16) College Friends**

<u>INDIVIDUALS</u>	<u>Frequency</u>	<u>Percent</u>
Not Influential	450	84.0
Influential	86	16.0
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v17) Acquaintance with a Landscape Architect**

<u>INDIVIDUALS</u>	<u>Frequency</u>	<u>Percent</u>
Not Influential	433	80.8
Influential	102	19.0
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**Q6: (v19-23) HOW HAVE THE FOLLWING INDIVIDUALS TREATED YOU IN REGARDS TO YOU DECISION TO STUDY LANDSCAPE ARCHITECTURE?**

**(v19) Parents/Relatives**

<u>TREATMENT</u>	<u>Frequency</u>	<u>Percent</u>
Does not apply	5	.9
Discouragment	9	1.7
Neutral	51	9.5
Encouragment	471	87.9
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v20) High School Teachers/Counselors**

<u>TREATMENT</u>	<u>Frequency</u>	<u>Percent</u>
does not apply	265	49.4
discouraging	8	1.5
neutral	102	19.0
encouraging	161	30.0
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v21) A Practicing Landscape Architect**

<u>TREATMENT</u>	<u>Frequency</u>	<u>Percent</u>
does not apply	183	34.1
discouraging	7	1.3
neutral	53	9.9
encouraging	293	54.7
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v22) College Teachers/Advisors**

<u>TREATMENT</u>	<u>Frequency</u>	<u>Percent</u>
does not apply	33	6.2
discouraging	5	.9
neutral	81	15.1
encouraging	416	77.6
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v23) College Friends**

<u>TREATMENT</u>	<u>Frequency</u>	<u>Percent</u>
does not apply	67	12.5
discouraging	12	2.2
neutral	131	24.4
encouraging	325	60.6
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**Q12: (v25-35) HOW IMPORTANT ARE THE FOLLOWING FACTORS IN DECISION TO ATTEND YOUR CURRENT UNIVERSITY?**

**(v25) Quality of Teacher/Professors**

<u>IMPORTANCE</u>	<u>Frequency</u>	<u>Percent</u>
not a consideration	44	8.2
not important	5	.9
somewhat unimportant	3	.6
neutral	79	14.7
somewhat important	176	32.8
very important	229	42.7
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v26) Perceived Quality of Institution**

<u>IMPORTANCE</u>	<u>Frequency</u>	<u>Percent</u>
not a consideration	25	4.7
not important	5	.9
somewhat important	5	.9
neutral	50	9.3
somewhat important	178	33.2
very important	273	50.9
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v27) University Recruiting Efforts**

<u>IMPORTANCE</u>	<u>Frequency</u>	<u>Percent</u>
not a consideration	149	27.8
not important	73	13.6
somewhat important	27	5.0
neutral	196	36.6
somewhat important	59	11.0
very important	32	6.0
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v28) Reputation of the Landscape Architecture Department**

<u>IMPORTANCE</u>	<u>Frequency</u>	<u>Percent</u>
not a consideration	62	11.6
not important	10	1.9
somewhat important	6	1.1
neutral	78	14.6
somewhat important	134	25.0
very important	246	45.9
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v29) Geographic Location**

<u>IMPORTANCE</u>	<u>Frequency</u>	<u>Percent</u>
not a consideration	20	3.7
not important	20	3.7
somewhat important	6	1.1
neutral	59	11.0
somewhat important	163	30.4
very important	268	50.0
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v30) Demographic Diversity**

<u>IMPORTANCE</u>	<u>Frequency</u>	<u>Percent</u>
not a consideration	126	23.5
not important	54	10.1
somewhat important	31	5.8
neutral	211	39.4
somewhat important	84	15.7
very important	30	5.6
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v31) Cost of School**

<u>IMPORTANCE</u>	<u>Frequency</u>	<u>Percent</u>
not a consideration	32	6.0
not important	20	3.7
somewhat important	18	3.4
neutral	80	14.9
somewhat important	171	31.9
very important	215	40.1
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

(v32) **Financial Aid**

<u>IMPORTANCE</u>	<u>Frequency</u>	<u>Percent</u>
not a consideration	103	19.2
not important	39	7.3
somewhat important	20	3.7
neutral	113	21.1
somewhat important	122	22.8
very important	139	25.9
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

(v33) **Parents/Relatives**

<u>IMPORTANCE</u>	<u>Frequency</u>	<u>Percent</u>
not a consideration	57	10.6
not important	27	5.0
somewhat important	14	2.6
neutral	131	24.4
somewhat important	162	30.2
very important	145	27.1
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

(v34) **Friends**

<u>IMPORTANCE</u>	<u>Frequency</u>	<u>Percent</u>
not a consideration	84	15.7
not important	58	10.8
somewhat important	40	7.5
neutral	167	31.2
somewhat important	109	20.3
very important	77	14.4
	-----	-----
Total	536	100.0

Valid cases 535 Missing cases 1

(v35) **Length of Landscape Architecture Program**

<u>IMPORTANCE</u>	<u>Frequency</u>	<u>Percent</u>
not a consideration	119	22.2
not important	53	9.9
somewhat important	34	6.3
neutral	180	33.6
somewhat important	101	18.8
very important	49	9.1
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**Q8: (v36-46) WHICH DESCRIBE THE ASPECTS OF THE PROFESSION OR TYPE OF WORK YOU WANT TO DO AFTER GRADUATION?**

**(v36) Artistic Expression Through Design**

<u>ASPECT</u>	<u>Frequency</u>	<u>Percent</u>
No	283	52.8
Yes	253	47.2
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v37) Natural Resource Planning/Management**

<u>ASPECT</u>	<u>Frequency</u>	<u>Percent</u>
No	369	68.8
Yes	167	31.2
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v38) Design for Environmentally Sensitive Area**

<u>ASPECT</u>	<u>Frequency</u>	<u>Percent</u>
No	318	59.3
Yes	216	40.3
	-----	-----
Total	536	100.0

Valid cases 535 Missing cases 1

**(v39) Urban Design**

<u>ASPECT</u>	<u>Frequency</u>	<u>Percent</u>
No	267	49.8
Yes	268	50.0
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

**(v40) Land Development**

<u>ASPECT</u>	<u>Frequency</u>	<u>Percent</u>
No	362	67.5
Yes	173	32.3
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

(v41) **Design/Build**

<u>ASPECT</u>	<u>Frequency</u>	<u>Percent</u>
No	315	58.8
Yes	220	41.0
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

(v42) **Industrial/Commercial Design**

<u>ASPECT</u>	<u>Frequency</u>	<u>Percent</u>
No	409	76.3
Yes	126	23.5
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

(v43) **Historic Preservation/Restoration**

<u>ASPECT</u>	<u>Frequency</u>	<u>Percent</u>
No	392	73.1
Yes	141	26.3
	-----	-----
Total	536	100.0

Valid cases 535 Missing cases 1

(v44) **Land Use Planning/Policy**

<u>ASPECT</u>	<u>Frequency</u>	<u>Percent</u>
No	381	71.1
Yes	154	28.7
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0

(v45) **Parks/Recreation/Resorts**

<u>ASPECT</u>	<u>Frequency</u>	<u>Percent</u>
No	205	38.2
Yes	330	61.6
	-----	-----
Total	536	100.0

Valid cases 536 Missing cases 0



(v46) **Teaching/Professor**

<u>ASPECT</u>	<u>Frequency</u>	<u>Percent</u>	
No	446	83.2	
Yes	89	16.6	
	-----	-----	
Total	536	100.0	
Valid cases	536	Missing cases	0

# Appendix E

## Curriculum Vitae

### Curriculum Vitae

(10 May 2000)

### MATTHEW N. POWERS

604 Ascot Lane  
Blacksburg, VA 24060  
(540) 961-5069  
mapowers@vt.edu

#### **Education** Virginia Polytechnic Institute & State University

Blacksburg, VA 24061

August 1998 to May 2000

Master of Landscape Architecture (Graduated May 2000)

#### FOCUS:

Multiculturalism in design education, issues of diversity in design, socially responsible design, and community design.

#### **West Virginia University**

Morgantown, WV 26506

August 1992 to August 1996

Bachelor of Science in Landscape Architecture (Graduated August 1996)

#### **Professional Experience:**

#### **Community Design Assistance Center (CDAC)**

Virginia Polytechnic Institute & State University

Blacksburg, VA 24061

TITLE: Project Manager/Designer from Sept. 1998 to Present

RESPONSIBILITIES: Manage project budgets and schedules, lead design team, and collaborate with governmental agencies.

#### **Virginia Polytechnic Institute & State University**

Blacksburg, VA 24061

TITLE: Graduate Teaching Assistant from Aug. 1998 to Present

#### COURSES:

- Fall Semester 1998- Researched distance learning methods and assisted in preparation and implementation of these for various courses
- Construction Documents (Third & Fourth Year BLA Core Class)  
– Assisted professor in instruction of students and grading.

- Martin Luther King, Jr. Memorial Design Competition (Major & Open Elective) – Created and instructed this special study class with the goal of applying a multicultural approach to teaching and design. Another aspect of this class was the formation and initiation of the beloved learning community as a form of studio education.
  - Introduction to Landscape Architecture (University Core Curriculum Course) – Instructor for 40+ students with an online oriented class.
- \*Attended two semesters of Graduate Teaching Seminar – A class provided by the Center for Excellence in Undergraduate Teaching oriented towards helping TA’s become better instructors.

**Environmental Concepts – Landscape Architecture & Planning**

618 Chestnut Rd. Suite 201 Myrtle Beach, SC 29572  
 TITLE: Associate Designer from July 1996 to July 1998  
 RESPONSIBILITIES: Site analysis, land planning, construction detailing, and graphic renderings and production.

**West Virginia University**

Morgantown, WV 26505  
 TITLE: Undergraduate Teaching Assistant for Spring Semester 1996  
 COURSES:  
 • Agricultural Education 262 (College of Agriculture & Forestry Elective) - Class preparations, lecturing and grading for a leadership and communication oriented class with an emphasis on public speaking.

**Chapman Technical Group – Multidisciplinary Design Firm**

St. Albans, WV 25177  
 TITLE: Landscape Architecture Intern from May to August 1995  
 RESPONSIBILITIES: Site analysis, highway planning, construction detailing, and graphic production.

**Leadership & Service:**

- Graduate student representative to faculty (1999-2000)
- Graduate student representative for VT ASLA (1998-99)
- Member graduate curriculum committee (2000)

**Publications:**

WORKS-IN-PROGRESS:  
 • “The Beloved Learning Community” – This paper discusses the educational value of this style of education by highlighting the Martin Luther King Jr. Design Competition Class of Fall 1999.

**Awards:**

- Student Merit Award – New Strategies for the Undercrowded Baltimore Neighborhood: Encouraging Neighborhoods of Choice and Diversity (1999)
- Outstanding Graduate Assistant Award - Virginia Tech (2000)
- Certificate of Merit - Excellence in the Study of Landscape Architecture, ASLA (1999-2000)

**Computer****Experience:**

EXPERIENCE: IBM and Macintosh platforms  
PROGRAMS: AutoCAD Release 12 & 13, MiniCad 7.01, Microsoft Word, Adobe Photoshop and Pagemaker, others.

**Associations:**

American Red Cross, American Society of Landscape Architects, Sigma Lambda Alpha