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Mixed messages: assessing communication in architectural education and practice

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MIXED MESSAGES:
ASSESSING COMMUNICATION
IN ARCHITECTURAL EDUCATION AND PRACTICE

by
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Dedication

This thesis is dedicated to M.E.W. and M.E.W. for their love and support.

Abstract

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IN ARCHITECTURAL EDUCATION AND PRACTICE
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The purpose of this study was to explore perceptions of communication in both the academic and professional architecture communities. The author addressed (a) whether profession-specific communication skills are part of any National Architectural Accrediting Board-accredited U.S. undergraduate architecture program; (b) how architectural educators feel about communication studies; and (c) how registered architects feel about communication skills in their practice. Research findings pointed to a dichotomy in academic and professional perceptions of the importance of communication training in undergraduate architecture education. While only 13.8 percent of academic programs require communication coursework directly related to architectural practice, 94 percent of architects surveyed indicated communication skills are "very important" to their practice and 73 percent of architects indicated their undergraduate architecture education did not adequately prepare them for professional practice. Implications for educating future architects are discussed.

Table of Contents

Table of Contents (continued)

Table of Contents (continued)

List of Figures

List of Figures (continued)

Chapter 1:

Introduction

Communication within architecture has a history of challenges. Architecture as a professional practice, akin to law or medicine, has long been viewed as one that requires no marketing or promotional activities to advocate on its behalf. In contrast to the professional nature of architecture and its associated modesty, architects have been dually challenged by the categorization of architecture as an art form. While many consider architecture a practical art, characterized by usefulness or the now-proverbial *form follows function*, there has long been an equally popular belief in architecture as a fine art, with the associated opinion that this art should speak for itself (Iloniemi, 2004, p. 10). Architecture should require no reinterpretation by the architect, but should instead attract critical praise and generate dialogue on its own. When combined with a reputation for esoteric language rife with jargon and theoretical musings, architects appear to face a long-term communication conundrum.

In the first Principles of Professional Practice adopted by the American Institute of Architects (AIA) in 1909, architects were barred from using any form of marketing, paid publicity, or news releases. This ban was not lifted until the 1960s. Paradoxically, the AIA is a voluntary professional organization; architects are not required to be members. However, the public tends to view the AIA acronym after an architect's name as an important credential. The organization's clout and the history of its marketing ban

meant it took many firms until the 1980s to even begin to venture into integrated communication programs (Kolleeny & Linn, 2002, p. 5).

Architects also tend to suffer from what Magali Sarfatti Larson termed in 1993 the "basic paradox of discourse," requiring architects to develop messaging and communication methods for two disparate audience groups. Architects need clients to fund building projects and provide economic security, but rely on other architects to affirm their professional legitimacy and credibility. Larson explains that a firm must combine promotion of its theoretical work to architectural colleague audiences to advance its design reputation and intellectual influence. However, architects must also market their services and built projects to clients on whom their architectural business success depends (Larson as cited in Sachs, 2008, pp. 738-739).

Compounding professional hesitation toward communication, few scholarly journals exist in which dialogue about architectural practice can be presented in a peer-reviewed format, thus the subject matter of architectural communication is limited to trade publications (i.e. Hanley-Wood's Architect magazine), private publishing and research organizations (i.e. DesignIntelligence and the Design Futures Council), and architectural trade and professional organizations (i.e. American Institute of Architects, Society of American Registered Architects). Membership groups such as the Society for Marketing Professional Services (SMPS) – the only professional organization dedicated to marketing and business development opportunities for A/E/C firms (http://www.smps.org, About the Society for Marketing Professional Services section, para. 2) – arose out of a need for education and advocacy specific to the business and communication side of design practice.

Statement of Problem

Architects require refined communication skills to practice effectively and to advocate for themselves, their profession, and the power of good design. Communication has gained increasing importance in the present era of globalization, with the world's economies reeling from the Great Recession, and with the design community experiencing a paradigm shift of sustainability initiatives, integrated project delivery methodologies, BIM, and technology-induced collaboration on an unprecedented scale.

Even before the recent chaos of world economic uncertainty, The Journal of Management in Engineering, in a March/April 2005 article, described major forces changing how architecture firms practice, including competition, a global economy, and client sophistication, stating that "tomorrow's successful A/E firms will employ the same basic marketing tactics . . .that Fortune 500 companies now use" (Kogan, 1995, p. 13).

As the impending economic catastrophe became evident in 2008, the American Institute of Architects hosted a moderated podcast to educate members about marketing efforts, calling them "critical factors in making your firm survive, stand out, and (it is hoped) prosper" (Hochberg & Mortice, 2008).

As recently as January 2010, the Design Futures Council published its DesignIntelligence Trends Forecast and Foresight Scenarios research outlining 25 trends transforming the architectural profession, including new strategic partnership models, the importance of brand differentiation, collaboration to build value, and the need for advanced internal communication tools. The positive outlook, according to the council: "Good design is not going away simply because there are fewer projects and tighter budgets" (Cramer & Gaboury, 2010, p. 10).

With a plethora of complicated and industry-transforming trends shaping the future of architecture, architects must rely on their communication skills so that they become active participants in the dialogue. “It should be comforting to know that as designers we have innate qualities that will enable our success as we face an uncertain future” (Fiskum, 2010, p. 34).

Writing skills are required, at the very least, for proposal preparation to win work, for project narratives to obtain board approvals, for submissions to win awards or to promote a practice and projects, and for daily communications via email and social media that have become the norm.

Interpersonal communication skills are necessary to work successfully with diverse project teams of internal staff, external design disciplines, client groups, user groups, neighborhood organizations, boards, and the public. These skills can lead to personal advancement and growth and can contribute to positive working environments.

Public speaking skills are necessary to present projects and information within the design community and to client and user groups, striking a balance in the discourse paradox.

Marketing and public relations skills are necessary to market and promote a firm’s differentiating factors to win work, ensure community support for projects, advocate the benefits of design, and maintain a positive professional image.

New media skills are necessary to understand and utilize the realms of Web site communication and social media and to use them to build relationships and share knowledge.

The bottom line for architects – communication in general is important; understanding how practice-specific communication skills benefit professional success is paramount (Kolleeny & Linn, 2002, pp. 16-18).

Architects must be conscious in the realization that much of their target audience – current and prospective clients – has difficulty understanding the nuances of architectural language and the technicalities of architectural drawings. “Architects can’t affect policy or advocate the value of architecture, much less market their services, if they can’t communicate to non-architects” (Downing & Stone, 2006, p. 221).

Differing drastically from its 1909 approach, the 2008 American Institute of Architects Handbook asserts, “The better an architect or architecture firm is at marketing, and the more strategically focused, the more likely the sole practitioner or firm will be to work on truly interesting, profitable projects” (Koren, 2008, p. 188).

The question naturally arises, What is the role of communication education within architectural education? On the cusp of a major transition in how architecture is practiced in a precipitous economy, with shifts in technology, relationships, and construction, the question that must be addressed – are future architects being taught to communicate effectively?

The researcher investigated the presence of communication studies in undergraduate architecture education and the underlying academic perceptions and reasons why communication studies are included or excluded from academic architecture programs. The author explored registered architects’ perceptions of the importance of general and specific communication skills to professional practice. The results may help

shape architectural communication curricula to impact generations of future architects and designers.

Situation Analysis

In its DesignIntelligence Trends Forecast & Foresight Scenarios 2010, the Design Futures Council illustrates the economic forecast for architecture as primarily stagnant, with 14 percent predicted positive growth, 37 percent predicted negative growth, and 49 percent neutrality in 2010-2011 as compared to 2009 (Design Futures Council, 2010, p. 21). Author Stephen Fiskum wrote that, "Design professionals are feeling vulnerable and anxious unlike any time in more than 50 years" (Fiskum, 2010, p. 31). However, a survey of 40-plus thought leaders in the industry indicated 60 percent were optimistic about the outlook for architects and designers this year (Design Futures Council, 2010, p. 27). In fact, Fiskum goes on to suggest architects who think strategically may prepare for success in the "redefined design industry of tomorrow" (Fiskum, 2010, p. 32).

According to authors Kolleeny and Linn for McGraw Hill Construction, one of the leading publishers for the design and construction community, "The evolution of architectural practice – from an anti-competitive, 'may the best man win' culture to one in which firms have to go out and win new projects, promote their designs, and also market their firms – was one of the most important changes in [the] profession during the 20th century" (Kolleeny & Linn, 2002, p. 1).

ZweigWhite, a research firm serving the A/E/C community, calculated in its 2009 Marketing Survey of Architecture, Engineering, Planning & Environmental Consulting Firms that 88 percent of A/E/C firm respondents had full-time, dedicated marketing staff,

and still, managing partners of those firms devote 30 percent of their time to marketing functions. The value of communication – in dollars and importance – has risen (ZweigWhite, 2009, p. 21 and p. 33).

Preparing architecture students for the realities of the economy and changes in architectural practice may begin with a shift in pedagogy. Increased emphasis on business and communication skills may instigate entrepreneurial, leadership traits that, when combined with traditional design skills, may have the power to transform the profession for significant benefit.

Elizabeth Evitts Dickinson wrote in Architect magazine in September 2010 that, "for too long, architecture schools shied away from teaching business basics" (Dickinson, 2010, para. 1). Design program faculty quoted in Dickinson's article attest to studio design-driven curricula and neglect of basic business coursework ranging from finance to communication. "Design is such a tiny percentage of where the money [in development] goes, and it's time to radically rethink our priorities," suggested Daniel S. Friedman, professor and dean of the University of Washington's College of the Built Environment and president of the Association of Collegiate Schools of Architecture (as cited in Dickinson, 2010, para. 5).

Procedure

The author sought to determine if general or practice-specific communication education is a component of any undergraduate U.S. architecture program, through a content analysis of web-published curricula of the 49 National Architectural Accrediting Board (NAAB) accredited B.Arch programs.

In order to investigate and analyze architectural educators' perceptions about the importance of communication studies to students during their education and in professional practice, the researcher distributed an electronic survey to deans and/or program directors of each of the 49 NAAB-accredited undergraduate architecture programs.

In order to investigate and analyze registered architects' perceptions about the importance of communication in their professional practice, the researcher distributed a parallel electronic survey to registered architects nationwide. The snowball effect research technique was employed to allow initial survey respondents to share the survey with other architects, who could share the survey with their colleagues, in order to create a larger pool of respondents.

The researcher supplemented the curricular content analysis and two electronic surveys with detailed secondary research of published scholarly and architectural trade journals, books, and online media to ascertain prevailing opinions about the state of architectural practice in 2011 and trends shaping the future of the profession; the state of undergraduate architecture education in 2011 and educational trends in teaching and learning; and research into the importance of communication skills in general.

Purpose of the Study

The purpose of the study was to investigate the presence of communication education, either general or practice-specific, in undergraduate architectural education in the U.S. The author attempted to correlate the importance of communication training in

academic study with the importance of communication skills in professional practice to identify symmetry or dichotomy.

Research gauged architecture educators' perspectives on the importance of communication studies in undergraduate architecture education; identified root causes of why or why not communication skills and practice-specific communication components may be taught in undergraduate architecture programs; and obtained feedback and insights that may inform future investigations of the role communication plays in architecture education. The author also investigated registered architects' perspectives on the importance of communication skills to their practice; the roles various types of communication play in architectural practice; and whether architects recall communication taught as part of their academic architecture education.

Hypotheses and Research Questions

The researcher addressed three questions: 1. Are profession-specific communication studies part of any National Architectural Accrediting Board-accredited U.S. undergraduate architecture program; 2. How do architectural educators feel about the importance of communication studies, within the academic setting and to students' future practice; and 3. How do registered architects feel about the importance of communication skills in their professional practice?

H1: It was expected that few, if any, NAAB-accredited U.S. undergraduate architecture programs offer practice-specific communication studies.

H2: It was expected that architectural educators would express the belief that communication skills are important to their students.

H3: It was expected that architectural educators place lesser value on communication studies within architecture education when compared to design and theoretical training.

H4: It was expected that registered architects would express the belief that communication skills are very important to their practice.

H5: It was expected that registered architects would express the belief that their architectural education did not adequately prepare them for the communication skills required in architectural practice.

Assumptions

- The author assumed that academic faculty survey respondents' views represent those of the dean and/or departmental leading faculty member for each architecture program included in the study. It also was assumed that administrative assistants or academic staff members did not complete the surveys on behalf of others. It was further assumed that academic respondents answered questions truthfully and accurately.
- The author assumed that architect survey respondents are licensed, practicing (e.g. "registered") architects in one or more of the United States. It also was assumed that architects answered questions truthfully and accurately.
- The author assumed that all survey participants understood the definitions of communication and practice-specific communication as described in each survey.

Delimitations

Primary academic institution research was limited to U.S.-based National Architectural Accrediting Board-accredited undergraduate architecture programs granting the pre-professional B.Arch degree. According to NAAB-published statistics for the 2010-2011 Academic Year, 49 such programs exist and were investigated in this study (http://www.naab.org, 2010, Find Accredited Programs section). Undergraduate architecture programs that do not meet these criteria (e.g. B.A. or B.S. in Architecture programs) were excluded from the study. Research focused on communication studies that are part of the formal architecture program and those that are recommended electives within other departments.

Primary architect research was limited to professional architects who hold current National Council of Architectural Registration Board license to practice architecture in one or more of the United States. Non-architects, intern architects who are not yet registered, and architects who have been licensed in the past but are not currently registered were excluded from this study.

Significance of the Study

This researcher attempted to offer insights into undergraduate architectural education in the U.S., and how the incorporation of communication studies may or may not impact students who become registered architects. The researcher sought to do the following:

- Identify architecture programs that offer practice-specific communication studies;

- Identify educator perceptions of the importance of general and practice-specific communication studies within undergraduate architecture education;
- Identify factors influencing academic institutions' decisions to include or exclude communication studies;
- Identify registered-architect perceptions of the importance of general and practice-specific communication skills to their practice;
- Gain feedback for additional research;
- Make the case for communication curricula in undergraduate architecture education; and
- Identify topics for communication curricula in undergraduate architecture education.

Definition of Terms

Accredited / Accreditation

Classification or process of external quality reviews to demonstrate academic quality to students and the public; architectural accreditation performed by the National Architectural Accrediting Board ensures architectural education programs in the U.S. meet standards for faculty, curriculum, student services, and libraries. Many states require applicants for architectural licensure to hold a degree from an NAAB-accredited school. According to the NAAB, "obtaining such a degree is an essential aspect of preparing for the professional practice of architecture" (http://www.naab.org, 2011 Accreditation section, para. 9). Schools of architecture are not accredited; only specific programs are accredited (http://www.acsa-arch.org, 2011, Architectural Programs section, para. 6).

A/E/C [Firms]

Commonly-used acronym in the design and construction community that refers to Architecture, Engineering, and Construction firms; often reduced to A/E for Architecture/Engineering firms (http://www.abbreviations.com, 2011).

AIA – *see American Institute of Architects*

American Institute of Architects (AIA)

Professional membership association for licensed architects, emerging professionals, and allied design professionals; in existence since 1857, the AIA has more than 300 state and local chapters through which it sponsors continuing education, publishes print and online resources for the architectural profession, and advocates for the profession

(http://www.aia.org, 2011, About the AIA section). [Note: the AIA suffix after an architect's name denotes membership. Paradoxically, the AIA is a voluntary professional organization; architects are not required to be members. However, the general public tends to view the AIA acronym after an architect's name as an important credential.]

Architect

Professional who has passed the Architect Registration Examination and is licensed to practice architecture in one or more of the 50 United States; legally, only persons who are licensed may use the term architect (http://www.aia.org, 2010, Career Stages section).

B.A. in Architecture

Bachelor of Arts degree in Architecture; pre-professional liberal arts-based undergraduate degree granted by a program that is not accredited by the NAAB. Graduates with B.A. in Architecture degrees must attend NAAB-accredited graduate education in order to qualify for the Architect Registration Examination and obtain professional licensure (http://www.acsa-arch.org, 2011, Architectural Programs section, Architectural Degrees subsection).

B.Arch

Bachelor of Architecture degree; the only undergraduate architectural degree accredited by the NAAB. (http://www.acsa-arch.org, 2011, Architectural Programs section, Architectural Degrees subsection)

B.S. in Architecture

Bachelor of Science in Architecture; pre-professional arts and sciences-based undergraduate degree granted by a program that is not accredited by the NAAB. Graduates with B.S. in Architecture degrees must attend NAAB-accredited graduate

education in order to qualify for the Architect Registration Examination and obtain professional licensure (http://www.acsa-arch.org, 2011, Architectural Programs section, Architectural Degrees subsection).

Communication

Process of transmitting spoken or written messages, or the process by which information is exchanged between individuals (Litwin, 2008, p. 89); in this study, non-verbal communication (i.e. body language) has not been considered.

Communication Studies

Any educational track teaching effective spoken or written communication skills alone or as part of another academic program.

Critique

Formal or informal review of design work and primary means of assessing the quality and progress of architecture students' work. As Graham writes, "One cannot separate [one's] own biases from a critique because criticism is a behavior in which individuals express their own perceptions of an object or an idea" (Graham, 2003, p. 3).

Design Futures Council

"Interdisciplinary network of design, product, and construction leaders exploring global trends, challenges, and opportunities to advance innovation and shape the future of the industry and the environment;" the DFC publishes DesignIntelligence and maintains the di.net Web site of original research, writing, and educational content (http://www.di.net, 2011, About Design Futures Council section para. 1).

Integrated Marketing Communication(s)

Strategic coordination of all internal and external communication messages, channels, and tools into an integrated program that maximizes benefit and minimizes cost (Clow & Baack, 2010, p. 8).

Intern Architect

Professional working in the field of architecture who has met the academic and professional requirements for beginning NCARB's IDP program and is working toward architectural licensure (http://www.aia.org, 2010, Career Stages section).

Intern Development Program (IDP)

NCARB's program that structures the multi-year transition from architectural student to licensed professional and which must be completed prior to qualifying for the Architect Registration Examination (http://www.aia.org, 2010, Career Stages section).

Integrated Project Delivery (IPD)

Policy meant to foster collaboration, improve efficiency, and minimize project risks by allowing owners and consultants to share one contract and work as a team rather than separate entities. Advocates of IPD believe the process yields higher design quality as a result of the collaboration (McCarthy, 2010, p. 62).

IPD – *see Integrated Project Delivery*

NAAB – *see National Architectural Accrediting Board*

National Architectural Accrediting Board (NAAB)

"The sole agency authorized to accredit professional degree programs in architecture in the United States" (http://www.naab.org, 2011).

National Council of Architectural Registration Boards (NCARB)

Members of the architectural registration boards of each of the 50 states, District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands; members include state-appointed public members, professional members, and administrators. NCARB "protects the public health, safety, and welfare by leading the regulation of the practice of architecture through the development and application of standards for licensure and credentialing of architects" (http://www.ncarb.org, 2011, About NCARB section, para. 1-2).

NCARB – *see National Council of Architectural Registration Boards*

Professional Practice [of architecture]

All-encompassing term to include the practice of architecture by registered architects, intern architects, and administrative and support staff; not limited to traditional architecture-firm practices but expansive to include the practice of architecture within institutional, government, or private organizations.

Profession-Specific Communication(s) / Practice-Specific Communication(s)

Communication methods specific to one professional practice; architectural practice-specific communication typically falls into the Integrated Marketing Communication category and includes business development, marketing, public relations, and media relations.

Registered Architect

A professional licensed by NCARB to practice architecture; registered architects may choose to include the post-name acronym, RA (http://www.ncarb.org, Becoming an Architect section, para. 4-5).

Snowball Effect Research Technique

Also known as snowball sampling, wherein the sample group expands like a rolling snowball; research technique where study subjects recruit additional subjects, those subjects recruit subjects, and so on until the desired research sample is obtained (Salganik & Heckathorn, 2004, pp. 193–239).

Studio

Primary instruction method and environmental setting in architectural education, through which real or hypothetical architectural problems are presented and students work alone or in groups to create design solutions; faculty or guests (i.e. critics) will critique the work. "For centuries, 'juries' of faculty and professionals have been used to discuss and evaluate the student solutions – undoubtedly the best-remembered experiences of nearly all [architecture] students. Ideally, knowledge from other courses is applied in the design studio" (http://www.acsa-arch.org, 2010, Architectural Programs section).

Chapter 2:

Literature Review

Literature Overview

Secondary research describes paradigm-shifting changes in architecture and how these currently and will continue to affect the profession. The literature describes the importance of communication in architectural practice, including the significant growth of marketing and promotion activities in firms of all sizes. However, limited research exists about communication in architectural education and points to a dichotomy between how architects are educated and the skills they need to practice effectively. Secondary research indicates architectural education in general neglects to emphasize business or communication and has been slow to adopt such curricula at the undergraduate level. However, pilot programs and emerging practice-based curricula show how communication skills can be taught to designers and point to successes and lessons learned.

Trends Shaping Communication in Architecture

In the January/February 2010 DesignIntelligence Trends Forecast & Foresight Scenarios, authors James P. Cramer and Jane Gaboury outline 25 trends shaping the future of design. Among these trends, *new strategic models*, wherein "professional firms need to dig proactively into clients' strategies both to understand client needs and to root out new work" (Cramer & Gaboury, 2010, p. 9), and the *growth of integrated project delivery*, wherein "using a single technology platform to enable – even require – all disciplines to work simultaneously and interactively" (Cramer & Gaboury, 2010, p. 9) both speak to the need for enhanced communication skills among architects and with peer design professionals. The authors describe *collaboration* as holding "the greatest promise for the most significant innovation in the next five years" (Cramer & Gaboury, 2010, p. 12) and advocate *social responsibility* for its potential to educate the public about architecture beyond aesthetics (Cramer & Gaboury, 2010, p. 15).

In the same Trends Forecast, Author Stephen Fiskum suggests that architects who think strategically may prepare for success in the "redefined" future design industry (Fiskum, 2010, p. 27). He adds, "While it may be therapeutic to commiserate about the anemic marketplace, [the design community needs] to direct our energy toward that which we can control – our skills" (Fiskum, 2010, p. 33).

The American Institute of Architects directly relates success in a shifting economy with marketing communication skills. "As economic instability stalks the world's building and design markets and the rest of the world, marketing efforts have become even more critical factors in making your firm survive, stand out, and (it is hoped) prosper" (Hochberg, H. & Mortice, Z., 2008).

The Journal of Management in Engineering referenced similar correlation between marketing and A/E/C firm success as early as March/April 2005, suggesting the use of Fortune 500-business marketing tactics would be advantageous for design professionals (Kogan, 1995, p. 13).

Few Scholarly Journals to Promote Dialogue

Architects suffer from what Magali Sarfatti Larson calls the "basic paradox of discourse" in that they require clients to fund building projects and provide financial stability while at the same time requiring other architects to affirm their professional legitimacy (Larson as cited in Sachs, 2008, pp. 738-739).

"In 'The Value and Values of Architecture,' Thomas Fisher, a former editor of Progressive Architecture magazine, laments the lack of an independent journal of architecture widely read by professionals. Fisher believes the profession's reliance on commercial publishers for major journals has had negative consequences (Willis, 2003, p. 65) "When . . . design competitions and magazine articles become primarily sales devices, the profession loses its ability to assess its own performance accurately." Fisher explains this ability is critical for both ethical behavior and to demonstrate the value of architecture to non-architect audiences (Willis, 2003, p. 67).

[Lack of breadth in scholarly architectural journals and depth in architectural trade journals] "places added responsibility on educators to cultivate in future architects the ability to critically assess what they read, even if its source is their own professional organization" (Willis, 2003, p. 67).

Roles of Communication in Architectural Practice

The necessity and importance of communication in architectural practice is made abundantly clear through secondary research.

In its 2009 Marketing Survey of Architecture, Engineering, Planning & Environmental Consulting Firms, researchers ZweigWhite found that of the 77 firms that completed the survey, 88 percent have full-time, dedicated marketers. Of those who did not cite full-time marketing personnel, the person with most responsibility was president/CEO/managing partner (56 percent), principal/partner/vice president (33 percent), or other (ZweigWhite, 2009, p. 21).

The ZweigWhite study found that regardless of marketing support, the president/CEO/managing partners who completed the survey reported devoting a median 30 percent of his/her time to marketing. Other principals and project managers indicated median 20 percent and ten percent, respectively (ZweigWhite, 2009, p. 33).

Different types of communication, reaching both client and colleague audiences, were described in the ZweigWhite study. Respondents prepared between 75-330 proposals on average in Calendar Year 2008 (ZweigWhite, 2009, p. 95). Ninety-nine percent of respondents maintained a Web site, with 64 percent of blog content written by professional/technical staff (ZweigWhite, 2009, p. 126). News releases were distributed by 82 percent of respondents (ZweigWhite, 2009, p. 134).

Public speaking and presenting also play a role in design firms' external communications. Trade show participation was indicated by 65 percent of respondents (p146). On average, 75 percent of people from firms surveyed speak at client organizations and other professional events (ZweigWhite, 2009, p. 149).

Finally, ZwiegWhite's research indicated the greatest marketing challenges identified by respondents. Twenty-one percent of respondents indicated "getting staff to market/sell" or "getting professional staff to understand the importance of their active participation" in marketing and communication-related activities (ZweigWhite, 2009, p. 183).

In 2002, Architectural Record magazine included a three-part "Keys to Success" series about marketing architectural services. Publishers McGraw Hill Construction reprinted the series as a standalone piece. As early as in the introduction, authors Kolleeny and Linn establish an underlying problem: "Little in the education of most architects ever gave them even the most basic understanding of how to sell what they do" (Kolleeny & Linn, 2002, Introduction para. 3).

The authors allude to the profession's hesitancy to adopt marketing communication, explaining that "shortages of work during the recessions of the late 1970s, late '80s, and early '90s, combined with significant changes in client culture, forced architects to take marketing seriously" (Kolleeny & Linn, 2002, p. 5). The authors quote Barry Alan Yoakum of Professional Services Marketing Journal (PSMJ) Resources who puts this fact into perspective. "Virtually 100 percent of architects' training focuses on doing projects. Their number one strength – solving project problems – creates their number one weakness – not equating clients with 'relationships' and failing to understand clients' businesses" (Kolleeny & Linn, 2002, p. 6).

Richard Burns, also of PSMJ Resources, adds "most firms do not understand how to explain what makes them unique" (Kolleeny & Linn, 2002, p. 6).

In the section describing techniques to shine in interviews for work, the authors advocate simple, articulate communication. “Architects make the mistake of favoring personal statements about their work over investigating what the client has asked for. Another common problem is the tendency some architects have to engage in intellectual grandstanding, speaking at length in highly abstract or technical language, not to mention usurping other team members’ contributions and interrupting the overall rhythm of the presentation” (Kolleeny & Linn, 2002, p. 17).

The final segment of the McGraw Hill Construction series discussed educating young architects in marketing and how marketing is handled in architecture school. The article cited an 18-month NCARB study involving focus groups of 110 practitioners, including interns, recently-registered architects, and educators which found that “architects are generally unable to communicate what they do for their clients, nor are they being taught to do so. Communication skills – an integral part of the marketing function – have become a sorely missing part of architectural practice” (Kolleeny & Linn, 2002, p. 34). The article relates this lack of communication skills to client concerns and even malpractice litigation. Dennis Astorino, AIA, who chaired the steering committee for the study, emphasized that architecture schools need to prioritize the teaching of communication skills (Kolleeny & Linn, 2002, p. 34).

Understanding Architecture Education

The Association of Collegiate Schools of Architecture (ACSA) provides on its Web site detailed information for prospective architecture students and their parents. The description of coursework explains the emphasis on design studios wherein students work alone or in teams to solve design problems in two and three dimensions and then present their work to groups of faculty and guest critics for review. This jury process is cited by ACSA as one of "undoubtedly the best-remembered experiences of nearly all [architecture] students." Studio – as a process and a place – forms the core of undergraduate architectural education, where students spend the bulk of their time and energy, often at the expense of other coursework (http://www.acsa-arch.org, 2011, Architectural Programs section, Course Work subsection, para. 2).

ACSA presents both sides of the argument that students may spend too much time in this educational model:

> Most architecture graduates do not become principal designers in architectural offices, and there is some criticism that too much emphasis is placed on the design studio without enough attention given to technical instruction. Others fervently argue that the role of the architecture school is not to develop technical skills; rather, it is to provide a broad framework of knowledge and a basic understanding of the desired objectives – realizing that five or six years of formal education cannot provide all the necessary training an architect will ultimately need. But nearly everyone working on an architectural project will at some point be required to make a decision about what materials should be used or how they will be applied. Literally thousands of details must be resolved before the building is completed. To this extent everyone is a 'designer,' and this in part explains the emphasis on design in schools. (http://www.acsa-arch.org, 2011, Architectural Programs section, Course Work subsection, para. 4)

However, the same ACSA overview recommends students include communication in their academic studies: “Communication is essential to human endeavor . . . Most architects spend a great deal of time communicating their ideas in both written and spoken form” (http://www.acsa-arch.org, 2011, Architectural Programs section, Course Work subsection, para. 9).

Renée Cheng argues in DesignIntelligence that a singular emphasis on studio is a detriment to future generations of architects. “The message should not be that design studios are more worthy of students’ energies than non-studio courses such as history, theory, or building technology. What we need is a new value system that directs students’ passion to the diverse range of skills and interests needed to drive the future profession” (Cheng, 2010, para. 4). She clarifies that the inherent connection between design and traditional studio teaching is strong and should not be replaced, but that teaching should extend beyond the boundaries of both the studio room and studio mindset, closing with “The more schools are willing to test their values with new courses and new curricular structures, the better that future will be” (Cheng, 2010, para. 10).

Dr. Julia Gaimster presented the emotional contexts of students and faculty within art and design studio education in a 2008 Art, Design & Communication in Higher Education journal article. She described how the close working conditions of studio required “critical emotional literacy” and described how verbal and non-verbal behavior can influence students positively and negatively, building or devastating confidence. “Handled properly, the ‘crit’ can be a creative and inspiring experience but it can also be an occasion in which students feel demeaned and embarrassed.” Gaimster adds that helping students become self-critical while dealing with their emotions in this academic

model is beneficial. Her assessment that, “creative people often have a very personal involvement with their work that needs to be nurtured in a supportively critical environment,” transcends design studio and can also be applied to the teaching of writing and communication skills to design students (Gaimster, 2008, pp. 188-190).

The emotions of the critique are also addressed by Gavin Melles of Swinburne University (Melbourne, Australia) in the journal Art, Design & Communication in Higher Education. He describes the “tentativeness with which students must propose architectural knowledge” (Melles, 2008, p. 166) in a peer-reviewed critique, for fear of upsetting social status or relationship to their peers and professors. Melles argues that “further attention should be paid to the discursive production of emotion, fact and affect in educational settings so that architectural education does not lose sight of the discursive significance of the [critique] and the value of constructive feedback” (Melles, 2008, pp. 166-170). Improved interpersonal and oral communication skills based on understanding of emotions may in fact reduce anxiety and make peer- or faculty-jury critiques more effective.

Architecture Education in 2011

According to statistics published in the National Architecture Accrediting Board’s February 2010 report on accreditation, 25,707 students were enrolled in NAAB-accredited degree programs during the 2008-2009 academic year (the most recent year such enrollment figures were available); 15,162 students (59 percent) were enrolled in B.Arch programs, and 2,764 B.Arch degrees were awarded (NAAB, 2010, p.14).

The Design Futures Council conducted its 12th annual survey to identify America's Best Architecture and Design Schools for 2011. Two hundred twenty organizations within four professions – architecture, landscape architecture, industrial design, and interior design – were surveyed about issues related to student preparedness for professional practice and how programs rated in various skills. Deans and chairs from 126 academic programs and 2,556 architecture students also completed surveys for data included in the final report published in DesignIntelligence's November/December 2010 issue (Design Futures Council, 2010, p. 10).

The top five undergraduate programs as rated in the study as "best preparing students for professional practice" were:

1. Cornell University
2. Syracuse University
3. Rice University
4. California Polytechnic State University, San Luis Obispo (tie)

4 Virginia Polytechnic Institute and State University (tie)

(Design Futures Council, 2010, pp. 10-11)

Architecture student skills were rated and ranked "based on the hiring experiences of firms surveyed" (Design Futures Council, 2010, p. 14). The top-rated programs (undergraduate or graduate not specified) for communication skills were:

1. Harvard University (also ranked first in Design and Research & Theory)
2. University of Michigan (also ranked first in Analysis & Planning)
3. Yale University
4. Cornell University

5. Virginia Polytechnic Institute and State University

(Design Futures Council, 2010, p. 14)

The most admired B.Arch programs as rated by academic leaders, "who weigh in on the status and progress of their own and peer institutions" included:

1. Auburn University
2. Cornell University
3. Virginia Polytechnic Institute and State University
4. University of Texas at Austin (tie)
5. Syracuse University (tie)

(Design Futures Council, 2010, p. 16)

According to the surveyed academic leaders, the "most significant changes in course offerings over the past five years" included more emphasis on sustainable design (77 percent), more emphasis on interdisciplinary collaboration and integrated practice (53 percent), more technology integration (45 percent), and more emphasis on global issues/international practice (39 percent). Ranked at the bottom of the list, more emphasis on professional practice was indicated by 14 percent of respondents (Design Futures Council, 2010, p. 17).

The study further addressed the "design profession's biggest concerns," which included sustainability/climate change, integrated design, urbanization, speed of technological change, globalization, and maintaining design quality (Design Futures Council, 2010, p. 17). Absent from the academic leaders' list were any mentions of economic instability, graduate employment shortages, or the shifts in practice described

by architects in the DesignIntelligence 2010-2011 trends forecast, evidencing unaligned perspectives on the same profession.

Architecture student respondents to the America's Best Architecture and Design Schools survey were comprised of 63 percent undergraduates. Of those undergraduate respondents, 92 percent believe they will be well prepared for their profession (with 84 percent planning to take the Architectural Registration Exam (ARE) and become registered); 56 percent believe their program rates excellent, and 34 percent believe their program rates above average. Only 11 percent rated their program average or below (Design Futures Council, 2010, p. 18).

Although author Lawrence W. Speck, a longtime architectural educator and practitioner, described the strengths of American architectural education in his November 2008 article in Architect magazine, he cited communication and business skills as those most lacking. "[Architecture students] may not be taking too many courses in the business school," but on a much wider scale, they are participating in community design centers, Solar Decathlons and other sustainable-building challenges, and urban design competitions, all while learning the traditional skills of hand drawing and physical model-building and the new-media skills of computer rendering and animation. (Speck, 2008, para. 13). The article posits that, if presented with ways to improve communication skills and gain firsthand exposure to, and experience in, the business side of practice, the same socially-conscious, entrepreneurial students would take advantage.

"The NAAB guidelines are about 20 years behind the times regarding what an architect actually needs to thrive in practice," Gregg Pasquarelli, founding principal of SHoP Architects and SHoP Construction was quoted as saying in a 2010 Architect

magazine article. The same article describes how the bulk of resources and credit hour requirements for architectural education are devoted to design studio. Andrea Rutledge, executive director of NAAB at the time of the article, responded that programs are free to exceed NAAB minimum guidelines and also stressed the importance of business-based learning that occurs during the IDP process. Students "need to know what to learn next" (Dickinson, 2011).

Renée Cheng, professor and head of the School of Architecture, University of Minnesota, advocated in the November 2009 issue of Design Intelligence "to teach students to lead a profession that does not yet exist," emphasizing collaboration, entrepreneurial skills, and education that advances beyond, and places less emphasis upon, traditional design studies (Cheng, 2009).

Architect and University of Kansas faculty member Dan Rockhill claims, "integrating business into an overall design process is absolutely critical, but anything having to do with business is often the first to be cut from academic programs" (Dickinson, 2010, para. 9).

In Building Community: A New Future for Architecture Education and Practice, published in 1996 and known as the "Boyer Report," authors Boyer and Mitgang describe seven principles for action culled from the report into an AIA Best Practices document. An architectural education curriculum connected to professional practice should be characterized by the ability to present design concepts orally, in writing, and in two- and three-dimensional representations (as cited in American Institute of Architects Knowledge Resources Staff, 2006, A Connected Curriculum section, para. 4).

The AIA Best Practices document "recommend[s] that firms regularly invite [academic] faculty and administrators to spend time in offices to exchange ideas and to help educators and practitioners keep abreast of the realities of practice and academic life" (as cited in American Institute of Architects Knowledge Resources Staff, 2006, A Unified Profession section, para. 3).

Architect magazine ran an article entitled "Stimulus for Students" in which author Ned Cramer described limited employment prospects for architecture graduates in 2009. Cramer suggested architects have a responsibility to ensure this generation does not become lost to other, more lucrative careers. An open letter from the American Institute of Architecture Students (AIAS) was quoted in the article:

"Especially when times are tough, students must be shown, through example, the concept of professional commitment. They must understand, through experience, the value of leadership and communication skills. And they must be encouraged, time and time again, to contribute to the communities where they study, work, and live . . . life happens outside studio . . . AIAS challenges students to move beyond their comfort zones and be the leaders the profession wants and so desperately needs" (American Institute of Architecture Students [AIAS] as cited in Cramer, 2009, Open Letter section, para. 2-3).

Some evidence shows that architecture schools may be slowly adopting practice-based skills in otherwise design-driven curricula, but most research still points to dramatic shortfalls when it comes to the teaching of communication.

Architect magazine cited Drury University for its Global Perspectives 21 curriculum, which emphasizes, among other things, communication skills (Hurley, 2009a, para. 1). Architect magazine later highlighted five programs that emphasize

practice-based skills. Boston Architectural College was cited for its concurrent work-study program in which students work for firms during the day and take coursework in the evenings. Drexel University was cited for its multiple co-op programs. Northeastern University integrates both work experiences and research into its program. Philadelphia University was called out for its use of professional designers as faculty members. The University of Cincinnati was recognized as the birthplace of the cooperative education coursework for architecture (Hurley, 2009b).

In a 2002 Architectural Record/McGraw Hill Construction special publication, authors Kolleeny and Linn highlighted three architecture programs where communication skills were emphasized. At the City College of the City University of New York, a course on written and verbal communication skills taught by a former Architectural Record editor stresses proposal writing, interview presentations, client letters, magazine pitch letters, design award submissions, and Web site content critique. The Tulane University program allows students to develop and design promotional materials for their own firm, including logo development and content writing. Students communicate directly with firms, via in-person interviews, at the School of Architecture and Urban Planning at the University of Wisconsin-Milwaukee, helping students understand how clients perceive the architectural process. “These examples show that the academy itself is finally eschewing the idea that marketing undermines the profession” (Kolleeny & Linn, 2002, p. 35).

The McGraw Hill Construction / Architectural Record series concludes with recommendations for change: “Most architects are still insufficiently exposed to marketing concepts and do not develop communication skills in schools . . . it is

unfortunate that American universities still do not recognize that the marketing of professional services is different from other kinds of marketing and that it merits its own course work" (Kolleeny & Linn, 2002, p. 36).

Teaching Designers to Communicate

In "Creating New Identities in Design Education" published in the International Journal of Art & Design Education in 2007, authors Hannah Rose Mendoza, Claudia Bernasconi, and Nora M. MacDonald present the IDEAS interdisciplinary, study-abroad educational program for design students at West Virginia University as a case study in the benefits of cross-disciplinary experience. "Design is a qualifier that crosses many professions. It is through the collaboration of these professions that they are reinvigorated and our relevance to society is revisited and renewed" (Mendoza, Bernasconi & MacDonald, 2007, p. 313).

In a 2008 article in the Journal of Writing in Creative Practice, author Cecilia Häggström suggests that formal, well-organized, researched academic writing is both relevant and important to design education and designers. She argues that writing forces the designer to be aware of a design problem, situation analysis, or proposed design solution on a greater level. "If we expect future designers to work more in interdisciplinary expert teams, the ability to explain and give good reasons for their suggestions also becomes important for justifying the designer's role as a profession" (Häggström, 2008, p. 158).

The Writing Purposefully in Art and Design (Writing PAD) program initiated in England in 2002 aimed "to inform the cultures of learning and teaching in studio-based

art and design (A&D) practice and to encourage the use of writing as a valid tool for the reflective practitioner" (Lockheart, Edwards, Raein & Raatz, 2004, p. 89).

The program organizers at Goldsmiths College, Central Saint Martins College of Art and Design, and the Royal College of Art structured writing curricula and evaluative measures designed to spark debate about the topic of writing within design education (Lockheart et al., 2004, p. 89). The Writing PAD pilot program today has evolved to include a membership-based organization of academics and designers contributing to knowledge on the subject, and the peer-reviewed Journal of Writing in Creative Practice.

"It is *how* and *what* [design students] write and how they could be encouraged through teaching to see writing as *valuable* to them as reflective practitioners that the Writing PAD project seeks to address" (Lockheart et al., 2004, p. 94).

Authors Julia Lockheart, Harriet Edwards, Maziar Raein, and Christoph Raatz describe a "mismatch between how our students learn and reflect in the studio and how they learn and reflect on theory" (Lockheart et al., 2004, pp. 94-95). They describe the creative freedom of studio design in comparison to the often-rigid constraints of formal writing but suggest there are ways to strike a balance. "Rather than imposing conventional academic writing as a matter of course, it might be better to re-evaluate the learning outcomes of the various A&D programmes and to see instead how writing can support the practitioner" (Lockheart et al., 2004, pp. 94-95).

The success of the Writing PAD project has been based in part on having students and professors develop writing assessment criteria in advance, and helping them begin to view writing as part of the expressive idea development that occurs naturally in studio-based education (Lockheart et al., 2004, p. 96).

According to researchers at London Metropolitan University, the school's *writing design* program helps design students who may be reluctant, "to write critically, confidently and effectively about design and design practice." The collaboration between Dr. Dipti Bhagat of the university's Sir John Cass School of Art, Media and Design and the Write Now CETC Writing Specialist at London Metropolitan University, Dr. Peter O'Neill, was described in a 2009 article in Art, Design & Communication in Higher Education. The journal article by Bhagat and O'Neill explained the authors' shared "belief in the potential for academic writing . . . to achieve the appropriate integration of practice and theory required to reinforce students' critical and intellectual engagement with their subject in preparation for their professional, creative practice" (Bhagat & O'Neill, 2009, p. 177). The writing design program began as a 10-workshop pilot project for 200 first-year design students and has now been incorporated into mandatory curriculum for all practice-led design students.

Chapter 3:

Methodology

Secondary research points to the importance of communication skills in architectural practice, and the relevance of teaching design students to communicate effectively, but it has not clearly demonstrated the presence of communication studies within undergraduate architecture education in the United States. The author sought to answer three questions:

1. Are profession-specific communication studies part of any NAAB-accredited U.S. undergraduate architecture program;
2. How do architectural educators feel about the importance of communication studies, within the academic setting and to students' future practice; and
3. How do registered architects feel about the importance of communication skills in their professional practice?

Research Question 1 Design Methodology

A content analysis of curricula of the 49 NAAB-accredited undergraduate U.S. architecture programs was undertaken to determine if communication education is a component of any program. Due to the small sample size, the content analysis methodology was categorized as a census because every unit in the sample was

evaluated, allowing the results to be generalized to the entire population (Jugenheimer, Bradley, Kelley & Hudson, 2010, p. 111)

Information published on each program's Web site was reviewed for this first-tier level of data. Findings identified educational tracks within the architectural program, specific courses, and sections of courses that include communication studies.

Research Question 1 Source of Data

The National Architectural Accrediting Board's published list of 2010-2011 Academic Year-accredited B.Arch programs served as the basis for the content analysis. The researcher reviewed web-published curricular content of each of the 49 accredited programs. For the purposes of this study, non-accredited programs were excluded.

Louisiana Tech University and the University of Louisiana at Lafayette, which are accredited for the 2010-2011 academic year but are in the process of phasing out their programs, were excluded from analysis. Savannah College of Art and Design, which also appears in the list for 2010-2011 but is no longer accredited, also was excluded.

Research Question 1 Sample Selection

The curricular content analysis census evaluated every sample in the population. The use of a census, in which every participant in the universe participates in the study, eliminates the possibility for any sample error.

Research Question 2 Design Methodology

An electronic survey was distributed to the dean and/or leading faculty representative of each of the 49 accredited programs to obtain his or her sentiments about communication studies within undergraduate architecture education. The survey included quantitative questions designed for comparison with other respondents' answers, and open-ended, qualitative questions designed to offer additional layers of detail.

The electronic survey was administered via email using the Constant Contact®, Inc. online survey tool. Each survey included a detailed introduction outlining terminology and research objectives to participants. Opt-out features enabled participants to decline or stop participating at any time. Questions included quantitative simple dichotomous answer sets, multiple-choice answer sets, and Likert Scale answer sets designed for comparison of respondents' answers.

Research Question 2 Source of Data

The National Architectural Accrediting Board's published list of 2010-2011 Academic Year-accredited B.Arch programs served as the basis for the list of academic program directors to which the electronic survey was distributed via email. For the purposes of this study, non-accredited programs were excluded.

Louisiana Tech University and the University of Louisiana at Lafayette, which are accredited for the 2010-2011 academic year but are in the process of phasing out their programs, were excluded from analysis. Savannah College of Art and Design, which also appears in the list for 2010-2011 but is no longer accredited, also was excluded.

Preliminary telephone calls to each program confirmed recipient name, title, and accurate email address and provided advance notice of the survey with the goal of 100 percent (census) participation.

Research Question 2 Sample Selection

The academic survey census aimed to evaluate every sample in the population. The use of a census, in which every participant in the universe participates in the study, eliminates the possibility for any sample error.

Research Question 3 Design Methodology

An electronic survey was distributed to registered architects in the U.S. to obtain their sentiments about the importance of communication skills in their professional practice and their recollections of communication in their architectural education. The survey included quantitative questions designed for comparison with other respondents' answers, and open-ended qualitative questions designed to offer additional layers of detail.

The electronic survey was administered via email using the Constant Contact®, Inc. online survey tool. Each survey included a detailed introduction outlining terminology and research objectives to participants. Opt-out features enabled participants to decline or stop participating at any time. Questions included quantitative simple dichotomous answer sets, multiple-choice answer sets, and Likert Scale answer sets designed for comparison of respondents' answers.

The first survey question was designed to eliminate non-architects, by asking respondents to indicate whether or not they are registered architects. Those that responded no were automatically directed to a thank-you screen and the remainder of the survey became unavailable. Those that responded yes continued to the remaining questions.

Research Question 3 Source of Data

This researcher's professional network of registered-architect colleagues formed the basis of primary distribution of the electronic survey. The professional networking Web site LinkedIn (through contacts and groups linked to this researcher) and American Institute of Architects national membership directory were also utilized for semi-random selection of architects in parts of the country where direct personal contact through colleagues was impossible. In all instances, the Snowball Effect research technique (*see* Chapter 1 Definitions) was used for distribution to a wider network of architects with the goal of representation from all 50 states plus the District of Columbia.

Research Question 3 Sample Selection

Non-probability, non-random sampling was used because probability sampling the entire U.S. population of registered architects, with each member having an equal and known chance of being selected (Jugenheimer et al., 2010, p. 112), would have been impossible to achieve given the time and physical constraints on the researcher. The results may be generalized to the U.S. population of registered architects but do not offer probability.

Methods of Analyzing Data

Data obtained in the content analysis provides identifying characteristics of undergraduate architecture curricula in each of 49 accredited B.Arch programs. Data was coded and categorized by this researcher to quantify where and how communication studies may be present. Analysis categories included course name, content type, whether the course is required or elective, and educational track in which the course appears (i.e. technical writing course as a recommended elective may be part of a journalism program or a required presentation skills course may be part of the architecture program). This quantifiable data was refined by qualitative details uncovered in each of the two electronic surveys.

Data obtained in the academic and architect electronic surveys was codified and analyzed by the Constant Contact program to ensure accuracy of reporting and mathematical calculations. The researcher used qualitative question analyses to enrich data in both surveys and in the content analysis, and to compare the results to secondary research. Demographic questions were included in both surveys for cross-tabulation purposes.

Summary

The Association of Collegiate Schools of Architecture provides basic information about undergraduate architecture education to prospective students and parents. The text states that “most architecture graduates do not become principal designers in architectural offices,” and elaborates on the myriad opportunities available to graduates with an architecture degree, ranging from landscape and environmental architecture to graphic

design to office management and business development. Although design may not be the primary responsibility of an architect's future job responsibility, architectural education is still dominated by design education (http://www.acsa-arch.org, Architectural Programs section, Course Work subsection, para. 4).

The Association of Collegiate Schools of Architecture goes on to state in its introductory text, "Communication is essential to human endeavor . . . Most architects spend a great deal of time communicating their ideas in both written and spoken form" (http://www.acsa-arch.org, Architectural Programs section, Course Work subsection, para. 9).

Primary research performed in this study sought to identify prevailing sentiments among architectural educators and architects about the importance of communication and the role communication education does and should play in undergraduate architecture education.

Chapter 4 provides results of the primary research, including tables and charts for concise data analysis into curricular content, educator sentiment, and architect sentiment.

Chapter 4:

Research Findings

Curricular Content Analysis Findings

In the content analysis, this researcher investigated curricular details of each of the 49 accredited B.Arch programs in the U.S. (list appears in Appendix A). According to Fulginiti and Bagin, content analysis provides "discovery of information about a series of items and factual statements about them" (Fulginiti & Bagin, 2005, p. 67). The data obtained in the content analysis offers cursory descriptions of curricular details using simple review of information posted on each program's Web site. Results do not clarify why or why not certain courses are included in each program; nor do they delve deeper into educational tracks or customized curricular programming a student may choose to develop based on his or her specific goals. The content analysis serves only to illustrate the types of communication coursework present in each program's published undergraduate architecture curriculum.

Content analysis was not performed for the programs at Tuskegee University or the University of Kansas. Tuskegee's Web site was not functioning for the duration of the research (December 2010-March 2011). The University of Kansas is no longer accredited, according to its Web site, despite inclusion on the NAAB list.

For each of the remaining 47 academic programs, communication coursework was identified and categorized by this researcher as required or elective, with additional details noted as relevant to this study.

It was found that 36 of 47 academic programs (76.6 percent) include one or more required English, writing, or other communication courses. These courses featured titles such as English Composition (Auburn University, Mississippi State University), Expository Writing (Boston Architectural College, Drexel University), or Freshman English (University of Arizona, Virginia Tech). Some programs indicated a writing requirement by number of courses rather than specific course title (University of Southern California, eight credits of writing coursework). Florida A&M University described how its program "complies with Florida's 'Gordon Rule' requiring 12 semester hours of English coursework where students produce written work of at least 24,000 words" (http://www.famusoa.net).

Only five of the 35 above-referenced programs (14.3 percent) require communication coursework that appears to be directly related to architectural practice. In addition to basic Writing I and II courses, New York Institute of Technology requires Communication for Art & Design (http://iris.nyit.edu/architecture). The Southern California Institute of Architecture's Writing in Architecture course "helps undergraduates improve their English language usage and composition skills. Students read literary and architectural theory, and respond to the work in their writing. Goals for the course are to develop a vocabulary to discuss studio projects; conduct research based on primary and secondary sources; compose and rewrite an essay in preparation for upper-division Cultural Studies assignments; and draft a basic proposal to fund projects.

These are supplemented by in-class creative writing assignments to better perceive writing 'off the page'" (http://sciarc.edu). The University of Notre Dame requires an Analysis of Architectural Writing course (http://architecture.nd.edu), while the University of Texas at Austin requires Tech Communications (http://www.soa.utexas.edu).

It was found that 10 of 47 programs (21.3 percent) specify one or more elective communication options (practice-specific or general) as part of the B.Arch undergraduate coursework. For example, Cornell University did not publish a required English or writing course, but indicated Freshman Writing as a "suggested" elective. Cornell also offers the program-specific "Sojourns architectural publications writing" course (http://www.architecture.cornell.edu). Several programs indicated elective courses were "writing intensive" without specifying course names, including University of North Carolina at Charlotte (http://www.soa.uncc.edu).

Of the ten programs that specify one or more elective communication course options, it was found that eight of 47 programs (17.0 percent) indicate one or more practice-specific elective communication course options. Drury University offers the elective Professional Communication course described as, "an in-depth exploration and development of oral, written, and graphic communication techniques and skills in professional architectural practice. This course examines communication between the architect and public, architect and client, architect and contractor, and architect and regulator with emphasis on technical communication methods" (http://www.drury.edu). Other practice-specific elective coursework was identified, including Business Development in Architecture at California State Polytechnic University in Pomona (http://www.csupomona.edu/~arc) and Management Seminar I and II at Drexel

University (http://drexel.edu/comad/architecture). Mississippi State University featured a large list of approved electives in communication on its architecture program Web site, including Fundamentals of Public Speaking; Principles of Public Relations; Interviewing in Communication; Elements of Persuasion; and Principles of Marketing (http://www.caad.msstate.edu). The NewSchool of Architecture and Design offered Specifications Writing, Media Communications, and Community Consensus Building among its list of electives (http://www.newschoolarch.edu). Woodbury University also included a large list, with Rhetoric & Design, Communication Theory, Interpersonal Communication, Media Culture, Journalism, and Crisis Communication listed, among others (http://www.woodbury.edu).

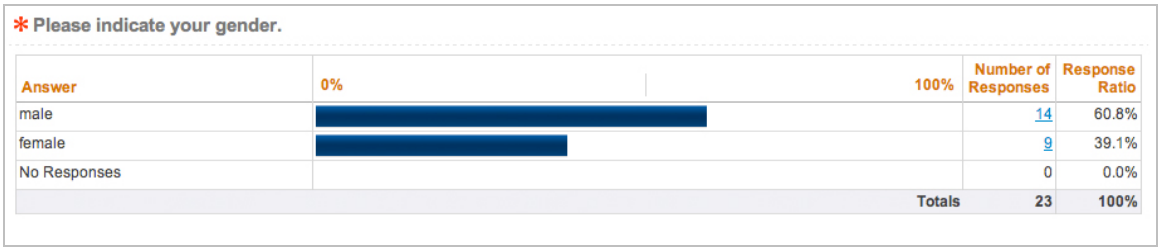
The content analysis revealed that 44 of 47 programs (93.6 percent) include a required Professional Practice course; in most cases, this course offers an "introduction to the professional practice of architecture and related careers" (http://architecture.uoregon.edu) with emphasis on architectural practice management, contractual agreements, and ethics. The University of Oregon's program was the only one to specifically identify marketing as a component of its professional practice course (http://architecture.uoregon.edu).

Full curricular content analysis details are illustrated in Appendix B.

Academic Survey Findings

An electronic survey was distributed to the dean and/or leading faculty representatives of each of the 49 accredited B.Arch programs to obtain their sentiments about communication studies within undergraduate education. This researcher hoped to achieve a census, or "collection of data from the entire population" (Litwin, 2008, p. 74). However, only 23 participants (46.9 percent) responded to the survey.

Of the 23 survey respondents, 14 were male (60.8 percent) and nine were female (39.1 percent). This roughly correlates to the entire population in which 69.4 percent (34) are male and 30.6 percent (15) are female. Gender statistics are illustrated in Figure 4.1.



* Please indicate your gender.

Answer	0% 100%	Number of Responses	Response Ratio
male		14	60.8%
female		9	39.1%
No Responses		0	0.0%
	Totals	23	100%

Figure 4.1: Academic Survey Q1 Participant Gender

Questions two through four asked respondents about their professional experience. Fourteen respondents (60.8 percent) indicated they are registered architects. A matching 14 respondents indicated they currently work in architecture; it may be logically extrapolated that these 14 respondents are the same for both demographic questions. Twenty respondents (86.9 percent) indicated they have worked professionally in architecture. Professional experience data collected in all three questions is illustrated in Figure 4.2.

* Are you currently a registered architect?

Answer	0% 100%	Number of Responses	Response Ratio
yes		14	60.8%
no		9	39.1%
No Responses		0	0.0%
	Totals	23	100%

* Have you ever worked professionally in architecture (either as a registered or non-registered design professional)?

Answer	0% 100%	Number of Responses	Response Ratio
yes		20	86.9%
no		3	13.0%
No Responses		0	0.0%
	Totals	23	100%

* Do you currently work professionally in architecture (either as a registered or non-registered design professional)?

Answer	0% 100%	Number of Responses	Response Ratio
yes		14	60.8%
no		9	39.1%
No Responses		0	0.0%
	Totals	23	100%

Figure 4.2: Academic Survey Q2/Q3/Q4 Participant Professional Experience

When asked in Question 5 to rate the importance of communication skills in architectural education on a scale of one to five, with 5 = very important, respondents indicated an average rating of 4.9. This represented an average weighted score based on 21 ratings of 5 = very important (91 percent) and two ratings of 4 = important (8 percent). Zero responses lower than four were obtained. Details are illustrated in Figure 4.3. Respondents offered optional comments including, “It is one of the most important indicators of success in the field other than architectural ability.”

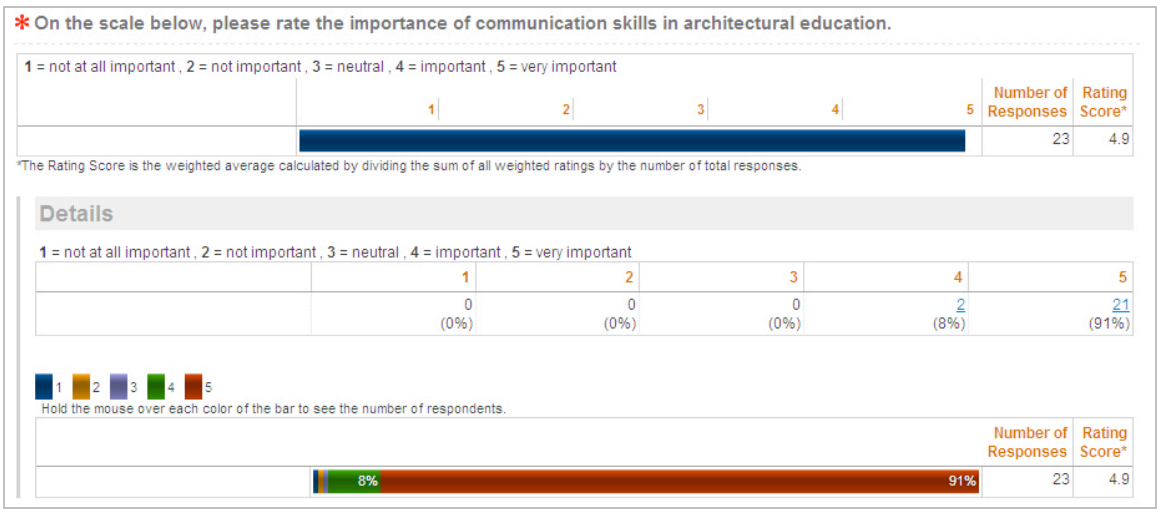
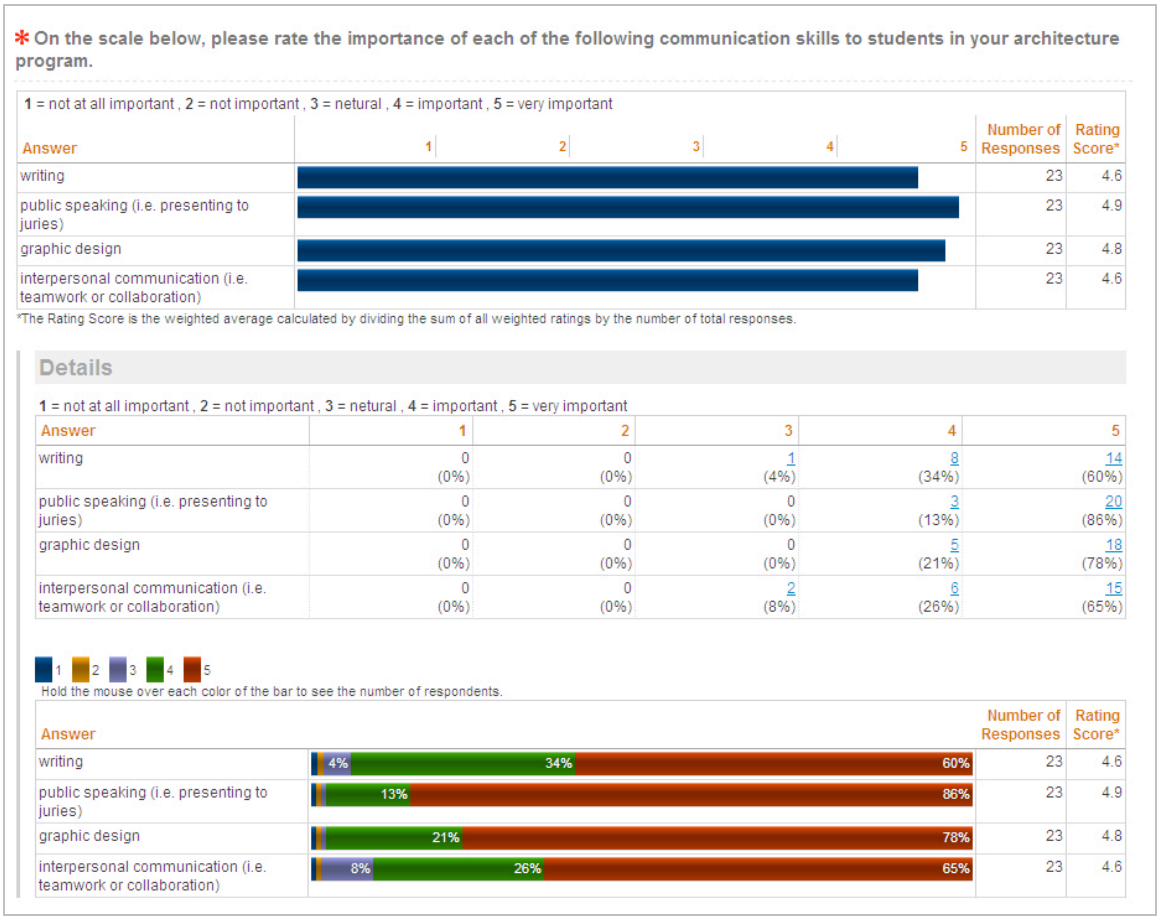


Figure 4.3: Academic Survey Q5 Importance Rating of Communication Skills

In Question 6, participants were asked to rate the importance of four communication skills: writing, public speaking (i.e. presenting to juries), graphic design, and interpersonal communication (i.e. teamwork or collaboration) – to students in their respective architecture programs on the same scale. Results are illustrated in Figure 4.4.



* On the scale below, please rate the importance of each of the following communication skills to students in your architecture program.

1 = not at all important , 2 = not important , 3 = netural , 4 = important , 5 = very important

Answer	1	2	3	4	5	Number of Responses	Rating Score*
writing						23	4.6
public speaking (i.e. presenting to juries)						23	4.9
graphic design						23	4.8
interpersonal communication (i.e. teamwork or collaboration)						23	4.6

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Details

1 = not at all important , 2 = not important , 3 = netural , 4 = important , 5 = very important

Answer	1	2	3	4	5
writing	0 (0%)	0 (0%)	1 (4%)	8 (34%)	14 (60%)
public speaking (i.e. presenting to juries)	0 (0%)	0 (0%)	0 (0%)	3 (13%)	20 (86%)
graphic design	0 (0%)	0 (0%)	0 (0%)	5 (21%)	18 (78%)
interpersonal communication (i.e. teamwork or collaboration)	0 (0%)	0 (0%)	2 (8%)	6 (26%)	15 (65%)

1 2 3 4 5

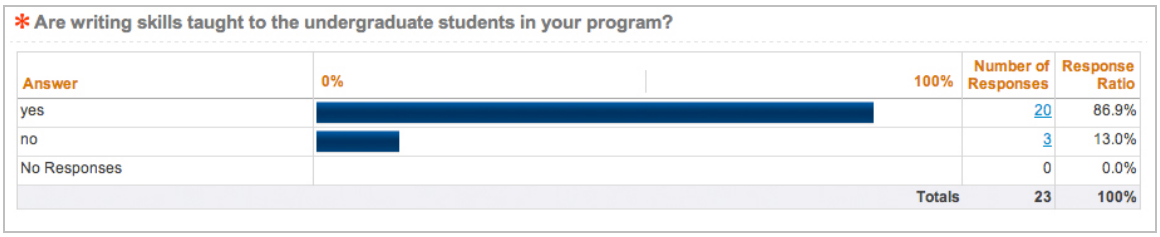
Hold the mouse over each color of the bar to see the number of respondents.

Answer		Number of Responses	Rating Score*
writing	4% 34% 60%	23	4.6
public speaking (i.e. presenting to juries)	13% 86%	23	4.9
graphic design	21% 78%	23	4.8
interpersonal communication (i.e. teamwork or collaboration)	8% 26% 65%	23	4.6

Figure 4.4: Academic Survey Q6 Importance Rating of Specific Communication Skills

While the majority of respondents indicated specific communication skills were important or very important, one respondent indicated writing as 3 = neutral. Two others indicated interpersonal communication as 3 = neutral. One optional comment provides further insight into that individual's response, "Of course, I am rating the importance I hope our students will give to these areas, not necessarily the importance they themselves give."

When asked whether writing skills are taught to undergraduates in their programs in Question 7, participants indicated yes by overwhelming majority. Twenty respondents (86.9 percent) indicated yes, while only three respondents (13 percent) indicated no.



* Are writing skills taught to the undergraduate students in your program?

Answer	0% 100%	Number of Responses	Response Ratio
yes		20	86.9%
no		3	13.0%
No Responses		0	0.0%
	Totals	23	100%

Figure 4.5: Academic Survey Q7 Teaching of Writing Skills

Question 8 asked respondents to comment on the answers provided in Question 7. Eighteen individuals opted to provide comments. Among the comments were those describing writing skills as necessary to meet university requirements:

- "There is a University writing standard requirement that must be met."
- "Two required 4 credit courses."
- "Three English comp/writing courses are required as part of the curriculum."
- "Our students must complete the university writing sequence."

Other respondents indicated writing as integrated into the architectural program, in courses that by title or subject alone may not appear to be writing- or communication-intensive:

- "Writing/communications skills [are] taught in required history courses and theory courses."

- "Writing is required in every design studio, with particular emphasis in the second and tenth studios in the ten-studio sequence."
- "Writing skills development is integrated into our required architectural history courses, seminars, and our required Professional Practice course."

Still other respondents described particular emphasis on writing in relation to specific university or program initiatives:

- "We are striving to have all our students recognized by our university as Distinguished Communicators. In order to accomplish that, they have to demonstrate success in 4 modes of communication: writing, speaking, graphic and technological."
- "We have several journalist (sic) and historians who help students write about their work."
- "Note that we are in the process of addressing this issue university-wide (not just in the School of Architecture, where are (sic) are also trying to address it!"

In Question 9, participants were asked whether marketing, public relations, or any professional practice-related communication skills are taught to the undergraduates in their programs. Sixteen respondents (69.5 percent) indicated yes; seven respondents (30.4 percent) indicated no, as illustrated in Figure 4.6.

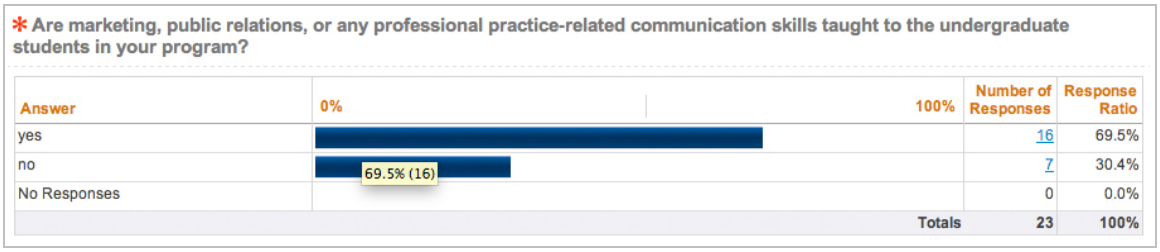


Figure 4.6: Academic Survey Q9 Teaching of Specific Communication Skills

Fourteen of the 16 respondents who answered yes opted to include a clarifying comment in the tenth question. Several positive comments described how practice-specific communications are integrated into the architectural program:

- "Public relations is addressed specifically in a required professional practice course and more generally in studio courses."
- "All our students are required to take the university-wide Public Speaking course. Also, in the last course in our Professional Practice sequence, students are introduced to and asked to practice client communication and professional communication (with subcontractors, building departments, etc) skills."
- "Some focus on it in our professional practice course – this last year students worked with local firms, analzing (sic) the firms (sic) marketing materials and strategy and made design proposals for changes."

Other respondents expressed shortcomings in how their programs handle communication:

- "Marketing is covered in the Pro Practice course, but not at depth."
- "Included within the Professional Practice courses, though not likely sufficiently to meet the necessity for skill in this area."

- "We have some volunteer professionals who conduct seminars for the students. We currently have no room in the program to add such a course."

Question 11 asked respondents to rate the importance of teaching different communication aspects of professional practice within an undergraduate architecture program. Six communication components were each rated on a scale of one to five with 5 = very important: public speaking, proposal writing, marketing, public relations, media relations, and employee relations.

Ratings for this question varied greatly, with responses ranging from 2 = not important to 5 = very important. Two comments provide insights into the responses illustrated in Figure 4.7 and speak to the variety of opinions within architecture academia:

- "It is a very interesting issue your survey brings up. These issues are rarely discussed in undergrad education and yet serve as rather the basis of the professional practice of architecture."
- "Our students will develop their own practices of architecture, and these practices will vary widely . . . I do not believe a special "professional communications" focus (as you define it in the introduction) is needed in the curriculum."

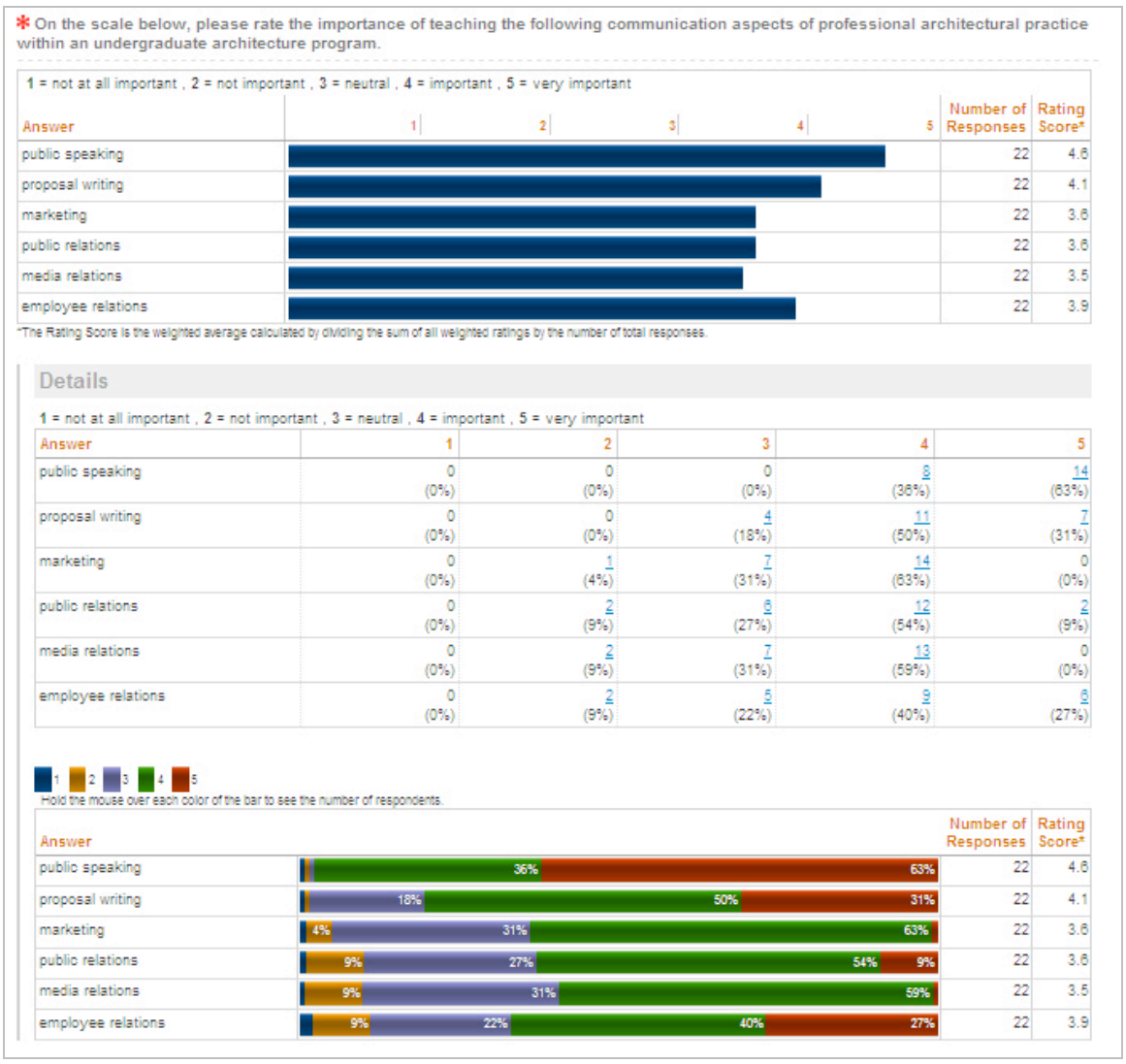


Figure 4.7: Academic Survey Q11 Importance Rating of Teaching Communication

In Question 12, respondents were asked how relevance, budget, and qualified faculty with architectural communication experience influence their program's decision to include or exclude communication studies from its undergraduate coursework. The majority of respondents (eight of 23 or 34 percent) indicated relevance was an including factor. The majority of respondents (13 of 23 or 56 percent) indicated a neutral rating for budget. The majority of respondents (11 of 23 or 47 percent) indicated a neutral rating for

qualified faculty. A single respondent gave the excluding factor score to relevance, indicating his/her program's perception that the study of community is irrelevant to architectural education. Results are illustrated in Figure 4.8.

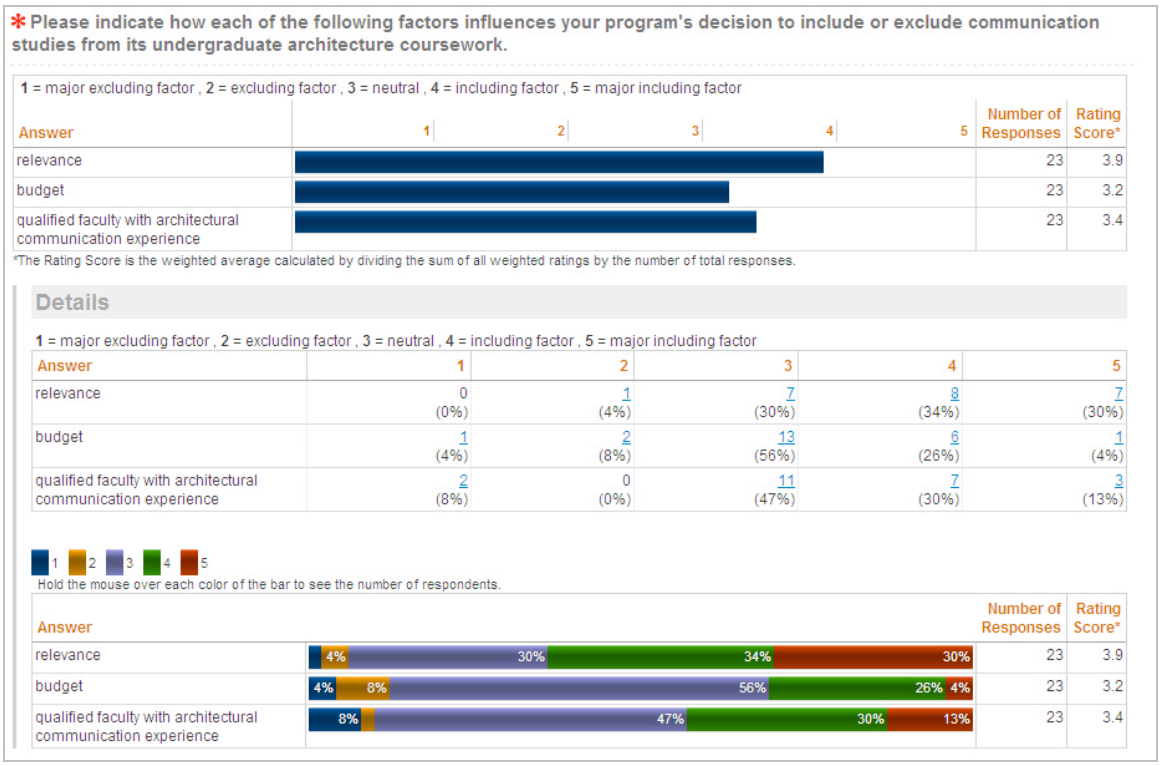


Figure 4.8: Academic Survey Q12 Influencing Factors

Optional comments were provided by two respondents:

- "Specificity of formal training in the above forms and techniques of communication requires fiscal and personnel resources. Verbal and graphic communication noted above are broadly covered over the course of 10 semesters of design education. I would consider writing as a program weakness for us. Marketing and PR, while not directly taught as noted, are

integral to making an argument, as in a design review and in individual desk critiques."

- "From my point of view this is strictly a learning outcomes question." (Note: this respondent cited relevance as a major including factor.)

The last component of the academic faculty survey was an optional open-ended question asking respondents if they had additional feedback about communication studies within architectural education, either specific to their program or in general. Six responses were received (26.1 percent). Among the responses were:

- "Our students come to us without a strong basic education. What are high schools teaching these days?"
- "Communication skill development is very important; whether there is sufficient room in the curriculum to expand the treatment through formal coursework is debatable. However, much greater preparation can be provided within the studio context if faculty there can be trained to pursue competencies in communication."
- "In certain states like Florida public education/universities is highly regulated and the number of credit hours for a degree mandated. Therefore, it is more difficult to add courses in that environment versus private institutions."
- "Design communications require the ability to combine verbal and graphic modes of communication effectively. This is a specialized skill that positions architecture graduates to enter the profession of architecture as well as many other fields."

- "The pressure of meeting the proverbial 60/40 NAAB split, makes it difficult to add required courses in this area. That being said, we recommend courses in the business and the design school on communications and graphic design."

Three survey participants provided their names and contact information for future follow-up. The three programs represented by these participants were Florida Atlantic University School of Architecture (Fort Lauderdale, Florida), Boston Architectural College (Boston, Massachusetts), and NewSchool of Architecture and Design (San Diego, California).

Architect Survey Findings

In parallel to the academic research, an electronic survey was distributed to registered architects across the United States to obtain their sentiments about the importance of communication skills in their professional practice and their recollections of communication in their architectural education. This researcher hoped to obtain responses from all 50 states plus the District of Columbia, and successfully met that goal. A total of 146 registered architects completed the survey.

The first survey question was designed to eliminate non-architects, by asking participants to indicate whether or not they are registered architects. Those that responded in the affirmative were directed to the remainder of the survey. As indicated above, 146 registered architects participated; another 10 potential participants were eliminated by their answer of "no" to this first question. Results are illustrated in Figure 4.9.

Figure 4.9: Architect Survey Q1 Participant Registration

Question 2 asked participants to indicate their gender. Males accounted for 123 responses (84.2 percent). Females accounted for 22 responses (15.0 percent). One participant did not specify gender. These statistics roughly correlate to the American Institute of Architects' November 2010 assessment that 17 percent of AIA member architects are female (American Institute of Architects, 2011, para. 3). Results are illustrated in Figure 4.10.

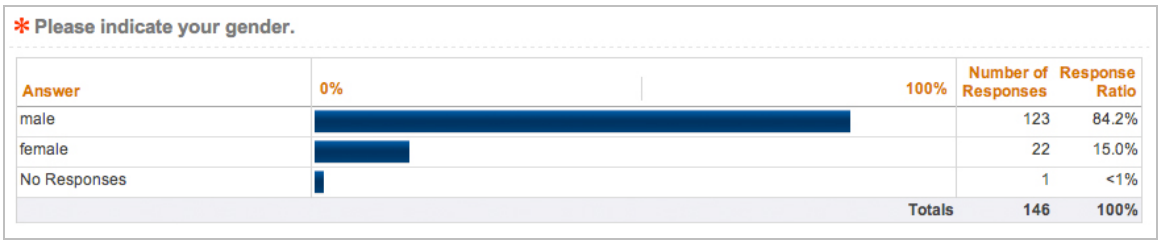
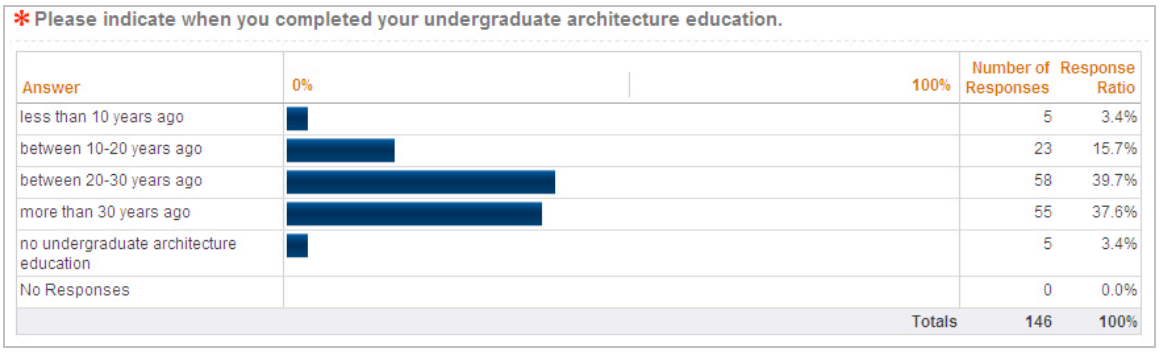


Figure 4.10: Architect Survey Q2 Participant Gender

Question 3 asked respondents when they completed their undergraduate architecture education. Results can be compressed into three main groups: those who completed undergraduate education less than 20 years ago (28 respondents or 19.2 percent); those who completed undergraduate education between 20 and 30 years ago (58 respondents or 39.7 percent); and those who completed undergraduate education more

than 30 years ago (55 respondents or 37.7 percent). Another five respondents (3.4 percent) indicated no undergraduate architecture education. Figure 4.11 provides details and response ratios for all survey choices.

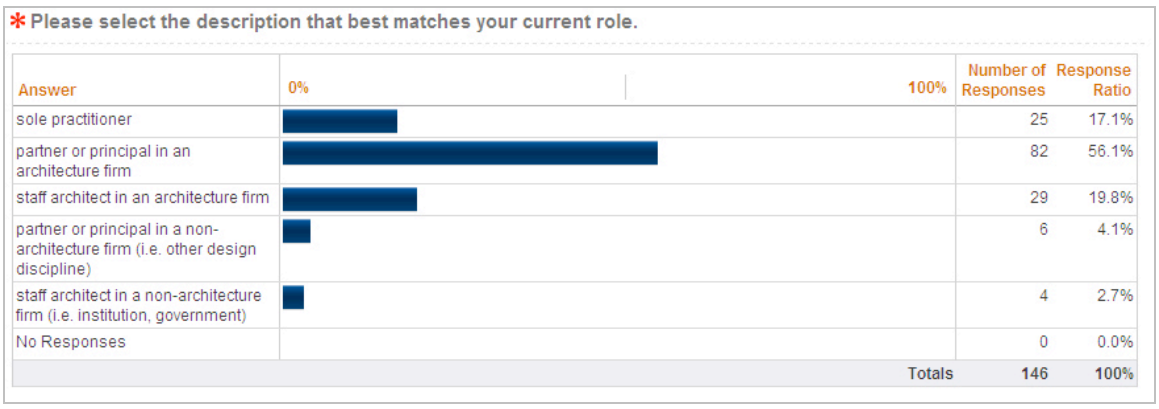


* Please indicate when you completed your undergraduate architecture education.

Answer	0% 100%	Number of Responses	Response Ratio
less than 10 years ago		5	3.4%
between 10-20 years ago		23	15.7%
between 20-30 years ago		58	39.7%
more than 30 years ago		55	37.6%
no undergraduate architecture education		5	3.4%
No Responses		0	0.0%
	Totals	146	100%

Figure 4.11: Architect Survey Q3 Participant Architecture Education Completion

Question 4 asked respondents to indicate their present role in architectural practice. Results can be compressed into three categories: sole practitioners, principals, and partners, i.e. those with principal-level firm management responsibility (107 respondents or 73.3 percent); staff architects in architecture firms (29 respondents or 19.9 percent); and those in non-architecture firms (10 respondents or 6.8 percent). Figure 4.12 provides details and response ratios for all possible survey choices. Partners or principals in architecture firms (part of the compressed majority indicated above) represented the actual majority of responses, with 82 respondents accounting for 56.1 percent of participants. This majority implies survey responses are heavily weighted toward the communication responsibilities and perceptions of those in managerial positions. As noted in Chapter 1, managing partners of A/E/C firms devote an average of 30 percent of their time to marketing functions (ZwiegWhite, 2009, p. 33).



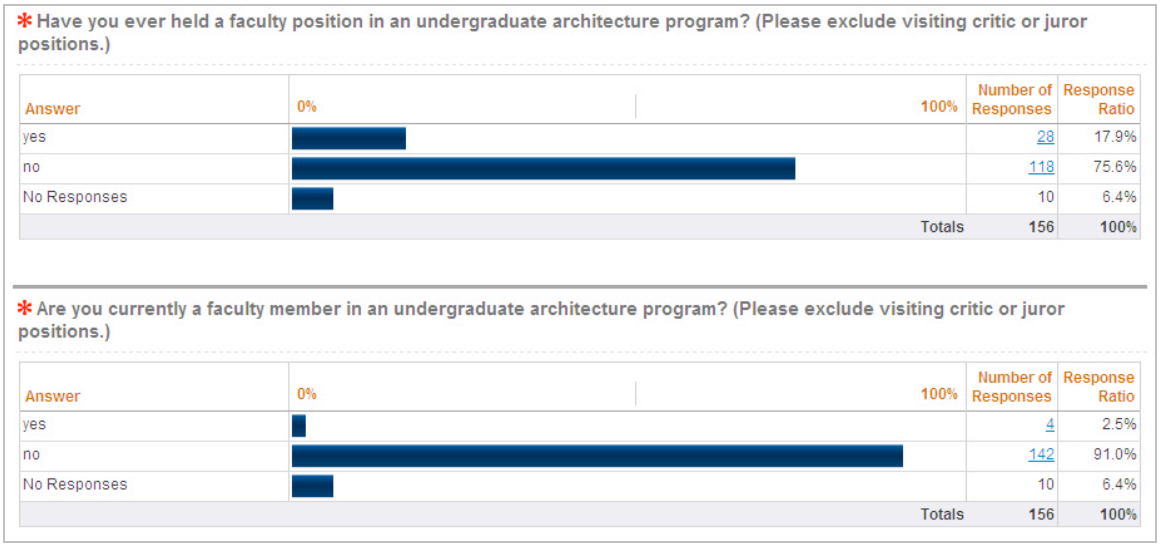
* Please select the description that best matches your current role.

Answer	0% 100%	Number of Responses	Response Ratio
sole practitioner		25	17.1%
partner or principal in an architecture firm		82	56.1%
staff architect in an architecture firm		29	19.8%
partner or principal in a non-architecture firm (i.e. other design discipline)		6	4.1%
staff architect in a non-architecture firm (i.e. institution, government)		4	2.7%
No Responses		0	0.0%
	Totals	146	100%

Figure 4.12: Architect Survey Q4 Participant Professional Role

Question 5 asked respondents to indicate the state in which their primary office is located. All 50 states plus the District of Columbia were represented in the responses. The states with the most responses included Pennsylvania (47 responses or 32.2 percent), Hawaii (10 responses or 6.8 percent), New York (7 responses or 4.8 percent), and the District of Columbia (5 responses or 3.4 percent). All other states were represented by four or fewer respondents. Refer to Appendix C for complete geographic representation details.

The next two questions solicited details about each respondent's teaching experience, asking respondents if they have ever held, or currently hold, a faculty position in an undergraduate architecture program. The majority responded no for both of these questions. Only 28 respondents (17.9 percent) have held faculty positions. Only four respondents (2.5 percent) currently hold faculty positions. Thus, the majority of survey respondents focuses their architectural careers in practice rather than academia, and have little basis, aside from their own experiences, on which to judge present-day architectural education.



✻ Have you ever held a faculty position in an undergraduate architecture program? (Please exclude visiting critic or juror positions.)

Answer	0% 100%	Number of Responses	Response Ratio
yes		28	17.9%
no		118	75.6%
No Responses		10	6.4%
	Totals	156	100%

✻ Are you currently a faculty member in an undergraduate architecture program? (Please exclude visiting critic or juror positions.)

Answer	0% 100%	Number of Responses	Response Ratio
yes		4	2.5%
no		142	91.0%
No Responses		10	6.4%
	Totals	156	100%

Figure 4.13: Architect Survey Q5/Q6 Participant Academic Faculty Experience

In Question 7 architects were asked to rate the importance of communication skills in their architectural practice on a scale of one to five, with 1 = not at all important and 5 = very important. All respondents provided a rating of 4 = important or higher. The majority of respondents (138 or 94 percent) rated communication skills a 5 = very important. Eight respondents (5 percent) provided a 4 rating. Results are illustrated in Figure 4.14.

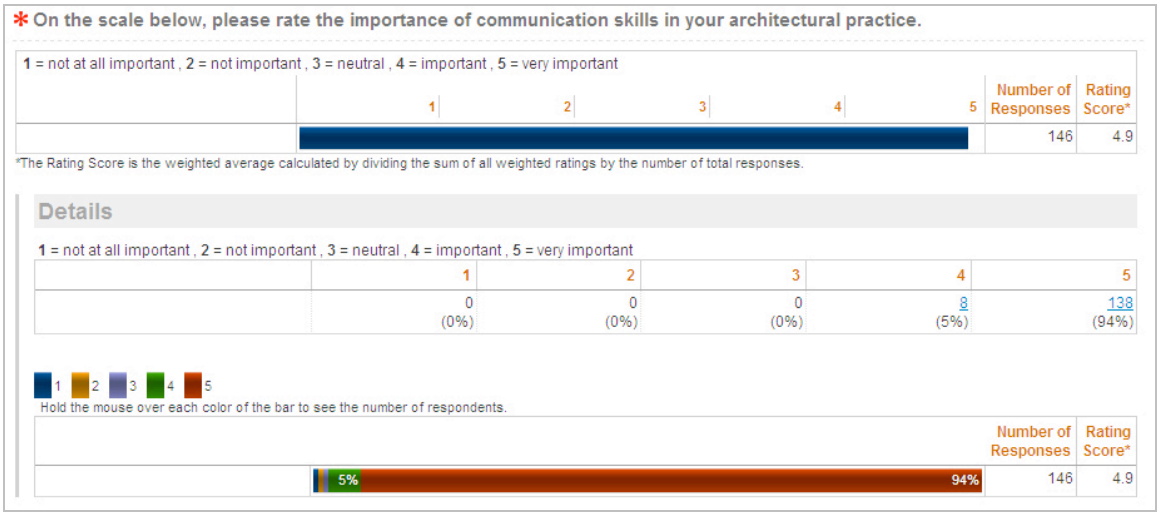


Figure 4.14: Architect Survey Q7 Importance Rating of Communication Skills

Sixty-two survey participants (42.5 percent) opted to provide a comment to accompany their answer. The comments were primarily positive in terms of the value and importance of communication skills to architects' work and practice. In fact, when comments were reviewed along with related rankings, it was found that all but one respondent who provided a comment scored communication skills at 5 = very important. The single dissenter rated a 4 = important and reflected on the use of communication skills in his practice, "We make numerous presentation (sic) each week and have meetings, letters, e-mail, reports, proposal (sic), drawings and specs constantly being created." If communication does not rank as very important, clearly by the response, acts of communication are both frequent and varied in the respondent's practice.

Recurring themes present in the other comments included, "Excellent communication skills are required to be a good architect," with numerous mentions of the importance of communication to winning business, interacting with clients, and explaining the design process. One respondent succinctly explained, "As architects,

communication is the only way we can express and convey our ideas. Commonly, you would think that's done through what we draw/show, but not everyone can read our drawings (especially after graduation), and not everyone can draw to demonstrate their ideas adequately." Another respondent indicated that, "communication may be the most important skill an architect can have. The relationship between the architect and the owner, between the architect and the consulting engineers and between the architect and the construction people are all pivotal to producing a successful project. This communication is required on multiple levels. Verbal, written and visual including drawings and other documents."

Other respondents chose to elaborate on their personal communication weaknesses and those they see in colleagues or employees: "One of the biggest stumbling blocks to individual advancement within the firm/profession is the widespread lack of fundamental writing skills, and the inability to dialogue verbally with clients – we have become much more introverted as a profession in the past 10-15 years."

Several respondents pointed to architectural education for communication challenges facing architects:

- "In general, I think architects have poor verbal skills as a consequence of its lack of emphasis in architecture school."
- "[Communication] was something that wasn't considered important for my degree where I went to school."
- "Frankly, there is nothing more important [than communication] in my opinion. I hope that communication skills are treated on par with design skills

in today's undergraduate programs. That was not the case when I attended college."

- "This is probably the single most important aspect of architecture, and very little if any time is devoted to teaching this effectively in colleges and universities."

A complete list of Question 8 optional comments appears in Appendix D. Each respondent's rating is included for reference.

Question 9 asked respondents to rate the importance of each of the following communication skills to architectural practice: writing, public speaking, graphic design, and interpersonal communication (i.e. teamwork or collaboration). All four skills rated above 4 = important on the scale of 1 to 5, with 5 = very important. Responses are indicated in Figure 4.15.

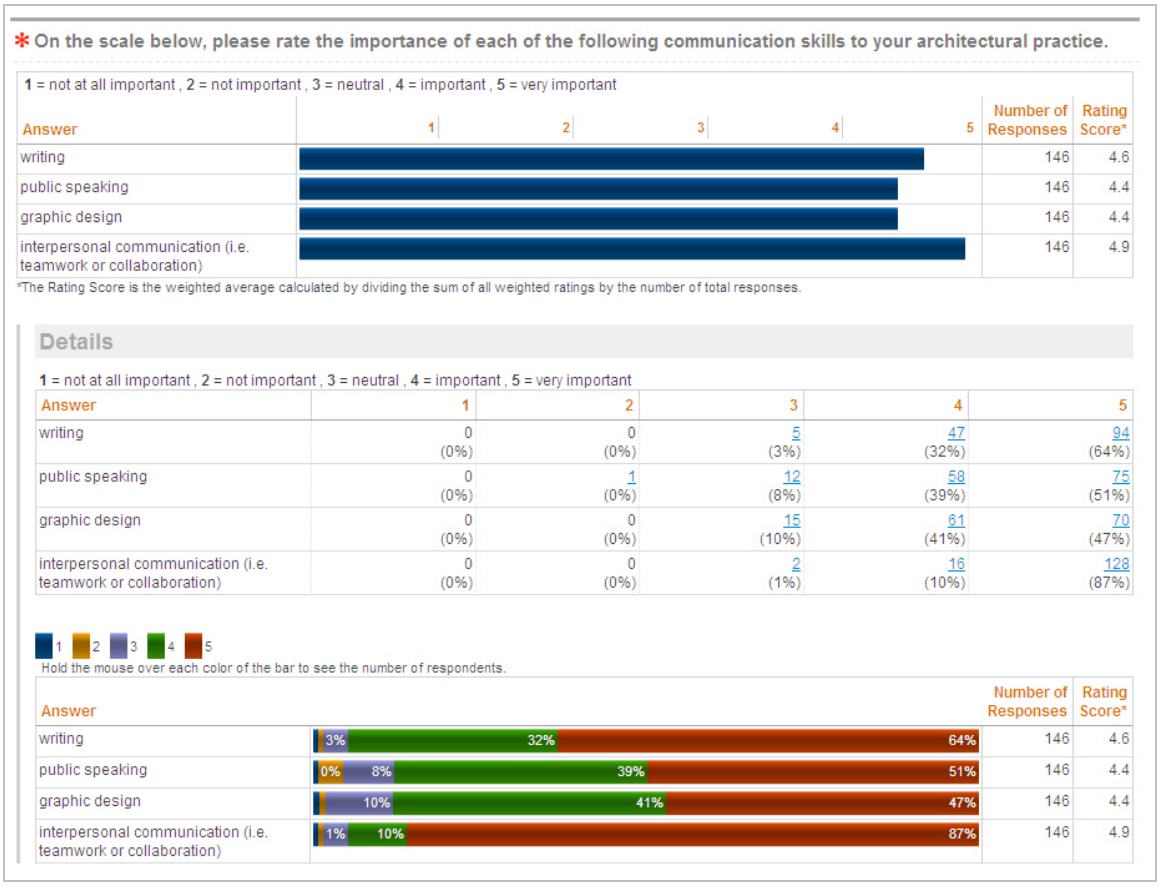


Figure 4.15: Architect Survey Q9 Importance Rating of Specific Communication Skills

The responses are heavily weighted toward importance of all four skills, with the most responses for any given skill falling into the 5 = very important rating. However, one person rated public speaking as 2 = not important. A small percentage of responses for each skill fell into the 3 = neutral category. Based on the responses, it appears that interpersonal communication is the skill on which the most respondents placed the highest importance. This supports comments provided in earlier questions regarding the significance of communication within internal project teams and with external groups including clients and contractors.

Thirty-two individual respondents chose to add an optional comment. Several of the responses emphasized the importance of communication in general and were similar to the following: “It is very important to be able to communicate ideas, and proposed architectural solutions in a manner most effective whether the medium is verbal, graphic or written.”

Other comments sought clarity as to the exact meaning of graphic design or interpersonal communication as defined in the survey. Still others expressed concern over lack of skill in any of the four communication areas: “Without proper communication even the simplest project can become difficult and clients will not return to our firm for future work.”

As in previous comments, the relationship between communication in practice and in architectural education was referenced. In one example, the significance of interpersonal communication was described: “Architecture as a profession is performed as a team, internally or externally. However we’re not trained to do so. Architecture education programs should institute team projects as part of the curriculum, to acclimate students to the idea and reality of working in teams.” Another comment reiterated, “We do not train professionals in our industry to communicate from the perspective of the recepient (sic) or listener.”

The complete list of all 32 Question 9 optional comments appears in Appendix E.

Question 10 asked respondents to rank the four communication skills: writing, public speaking, graphic design, and interpersonal skills from the previous question, with 1 = least important and 4 = most important. It became clear upon this researcher’s analysis of the data that respondents did not always interpret the question accurately, and

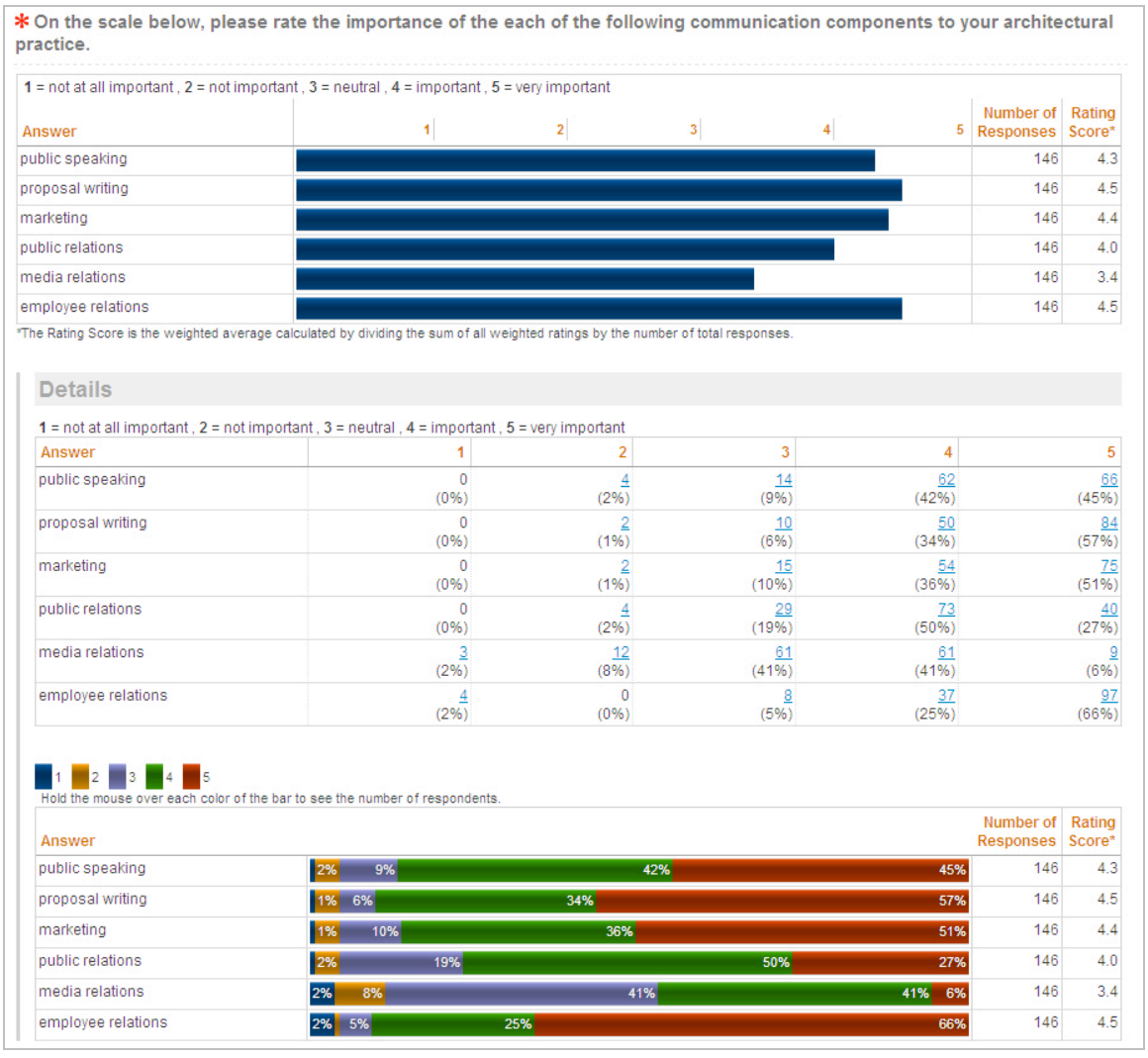
often ranked in reverse order, with 1 = most important and 4 = least important. This became evident upon review of comments associated with individual respondents' rankings. In addition, a number of respondents commented that the ranking process was difficult because the skills were of equal or similar importance. Sample comments expressing difficulty with the ranking process included the following:

- "This is a tough question as each form of communication is important dependent on the task at hand. All four can be important when meeting with a client or potential client. I have rated them, but I think they are equally important;" and
- "It's hard to rank these – they are all important, and each one may be the most important in a given situation;" and
- "I had difficulty with the above rating system as I believe all 4 are vitally important and share equal importance for success or failure."

The complete list of 28 Question 10 comments appears in Appendix F. Specific responses and rankings have been excluded due to the data discrepancies.

Question 11 asked participants to rate the importance of six communication components to their architectural practice: public speaking, proposal writing, marketing, public relations, media relations, and employee relations. Components were rated on a scale of 1 = not at all important to 5 = very important. Proposal writing and employee relations tied for most importance, each earning a rating score of 4.5. Marketing earned a rating score of 4.4, followed by public speaking at 4.3, and public relations at 4.0. Respondents placed the lowest importance on media relations, which scored 3.4.

Figure 4.16 illustrates the component ratings. For public speaking, proposal writing, marketing, and employee relations, the most responses for each component indicated a 5 = very important ranking. For public relations, the most respondents indicated a 4 = important ranking; for media relations, the most respondents were divided evenly between 3 = neutral and 4 = important rankings.



*** On the scale below, please rate the importance of the each of the following communication components to your architectural practice.**

1 = not at all important , **2** = not important , **3** = neutral , **4** = important , **5** = very important

Answer	1	2	3	4	5	Number of Responses	Rating Score*
public speaking						146	4.3
proposal writing						146	4.5
marketing						146	4.4
public relations						146	4.0
media relations						146	3.4
employee relations						146	4.5

*The Rating Score is the weighted average calculated by dividing the sum of all weighted ratings by the number of total responses.

Details

1 = not at all important , **2** = not important , **3** = neutral , **4** = important , **5** = very important

Answer	1	2	3	4	5
public speaking	0 (0%)	4 (2%)	14 (9%)	62 (42%)	66 (45%)
proposal writing	0 (0%)	2 (1%)	10 (6%)	50 (34%)	84 (57%)
marketing	0 (0%)	2 (1%)	15 (10%)	54 (36%)	75 (51%)
public relations	0 (0%)	4 (2%)	29 (19%)	73 (50%)	40 (27%)
media relations	3 (2%)	12 (8%)	61 (41%)	61 (41%)	9 (6%)
employee relations	4 (2%)	0 (0%)	8 (5%)	37 (25%)	97 (66%)

1 2 3 4 5

Hold the mouse over each color of the bar to see the number of respondents.

Answer		Number of Responses	Rating Score*
public speaking	2% 9% 42% 45%	146	4.3
proposal writing	1% 6% 34% 57%	146	4.5
marketing	1% 10% 36% 51%	146	4.4
public relations	2% 19% 50% 27%	146	4.0
media relations	2% 8% 41% 41% 6%	146	3.4
employee relations	2% 5% 25% 66%	146	4.5

Figure 4.16: Architect Survey Q11 Importance Rating of Communication Components

When asked in Question 11 to provide an optional comment related to Question 10, 20 respondents opted to do so, clarifying ratings responses. Example comments included: “I work in an in-house design department for a health-care system. We don’t need to market because we have a built-in client,” and “I do not have employees so I checked off neutral.” The full list of comments is provided in Appendix G.

Question 12 was similar in nature to Question 10. It asked respondents to rank the six communication components from Question 11. Again, respondents seemed to have difficulty following the ranking parameters of 1 = least important and 6 = most important and comments did not correlate with answer choices. Twenty optional comments recorded (see Appendix H) also paralleled those in Question 10, wherein respondents described difficulty with the ranking process:

- “Note that all are quite important so this is a challenge to prioritize. We have to support all in order to achieve excellence;” and
- “This was a very difficult one to prioritize. It is a very fluid process and varies with markets, projects, and goals.”

Other comments reflected priorities based on the nature of the individual respondent’s firm or practice:

- “I do mostly referral work or repeat client work, so i (sic) do not put an enormous amount of energy into the marketing aspects;” and
- “No employees, if i (sic) did though, it would rank as second most important arena for effective communications skills, behind proposal writing;” and
- “I personally think public speaking is important, but my firm feels it is less important, so I am answering for how we feel firmwide.”

As was the case for previous questions, comments touched on how the ranking fits into the relationship between architectural education and practice: "Without effective business development, there is no firm . . . Even the best design in the world is still just a piece of paper unless you can convince someone to build it. These are two simple, age-old truths that most architects stumble upon only after graduation, because very few schools ever even touch on these subjects."

As with Question 10, specific responses and rankings for Question 12 have been excluded due to discrepancies in the data.

Question 13 asked architect respondents if they were taught any professional practice-related communication skills (i.e. marketing, public relations, public speaking) as part of their undergraduate architecture education. The majority of responses (105 or 67.3 percent) answered no. Another 41 respondents (26.2 percent) answered yes, while 10 (6.4 percent) declined to answer. Figure 4.17 illustrates the results.

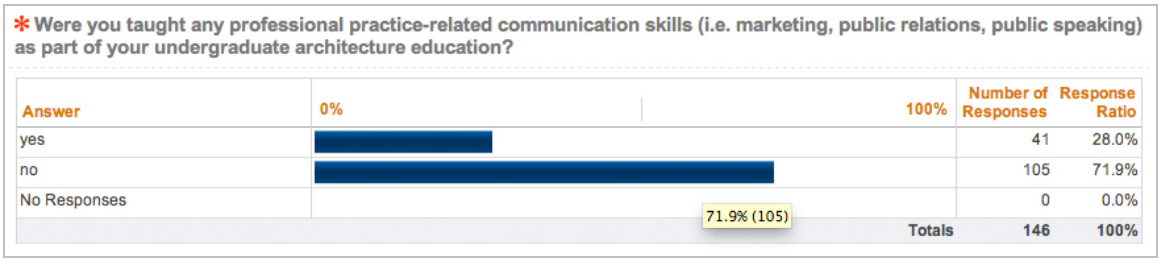


Figure 4.17: Architect Survey Q13 Communication Education

Question 14 asked participants if they answered yes in the previous question to provide additional detail (i.e. type of course, whether it was required or not). Forty-five optional comments were given. The full list appears in Appendix I. Of the responses, 17

(37.8 percent) cited public speaking as a required or elective communication component. Ten (22.2 percent) cited presentations in the studio environment or formal critiques as a communication component.

Six of the comments indicated the respondents' opinions that their education left them unprepared for the communication aspects of professional practice, as evidenced by the following:

- "Very very very (sic) little taught on this subject which is vitally important;"
- "Courses specific to Communication Skills (sic) would have been very helpful;"
- "It often didn't happen, but it was assumed [students were] picking up a lot of [communication] skills just because we were giving presentations so often;"
- "Let's just say it was lacking from what I can recollect;" and
- "We needed more."

These comments segued into Question 15, which asked respondents if their architecture education prepared them for the communication aspects of architectural practice. The question specifically excluded the Intern Development Program training that occurs in the workplace. Answers are illustrated in Figure 4.15.

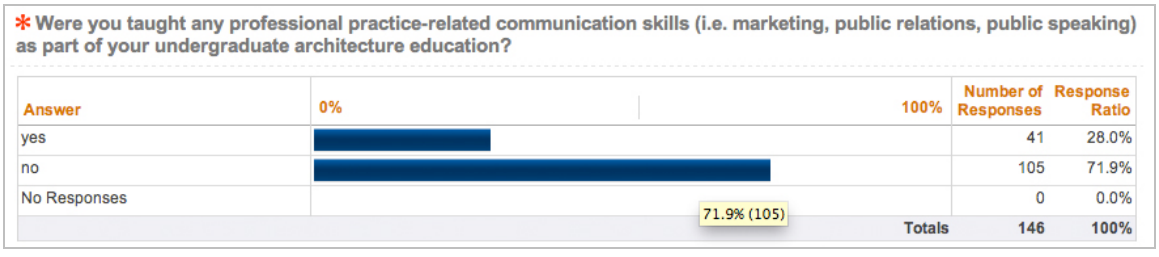


Figure 4.18: Architect Survey Q15 Communication Preparedness

The majority of respondents (104 or 66.6 percent) indicated that their architecture education did not prepare them for the communication aspects of practice. Fifty-four optional comments (available in Appendix J) offered additional detail. The combination of positive, negative, and constructive criticism regardless of an individual's yes-or-no response renders it impossible for a researcher to accurately quantify results at a deeper level. However, comments enrich the data collection and point to trends in personal, educational experiences and both strengths and weaknesses in academic architectural training.

Many of the comments focused on the presentation and public speaking skills required by, and honed in, the formal jury review or "critique" process in undergraduate architecture education. Respondents indicated the benefits of such a process:

- "Having to present and defend your design to outside professionals in a jury setting was daunting but good preparation for brutal client meetings;" and
- "One thing I thought school did well was to separate me from my work so that I could accept criticism of my project as separate from criticism of me;" and
- ". . . presenting your design to a jury every term was good training for public presentations."

However, a number of respondents offered caveats with their praise of the critique system, including three who referenced 'trial-and-error' or 'trial by fire' as the only formal training to be successful in a critique:

- "We had to speak as part of the crit process . . . but that is far different than selling a job to a client;" and

- "My collegiate architectural eductaion (sic) gave me a very basic understanding of public speaking by virute (sic) of our crits. But, I would say that exposure enough wasnot (sic) enough to prepare me for my practice;" and
- "We had to 'present' our projects to our professors – but there was no training on how to do this, we just had to do it;" and
- "Much of the time it was communications trial by fire – there's nothing like pressure to teach the importance of preparation;" and
- "The only communication aspect of the undergraduate architecture training is to learn by trial and error during critiques;" and
- "Public speaking and graphic design skills . . . we weren't taught these skills, we had to learn under fire by trial and error."

Other comments supported secondary research such as the description by author Paul Davies who described the "ghastly wrangling, downright improvisational philosophy; pretentious posturing; preening and fawning; [and] ridiculous twisting of the English language (Davies, 2002, p. 392) that took place in the critiques he attended. For example, survey respondents commented:

- "[Critiques] often turn into an exercise in architectural jargon, most of which is the actual opposite of good communication. In other words, only an insider has any idea of what is being discussed. This jargon is totally counterproductive in terms of discussing project design with a client;" and
- "Architecture students are taught to talk about their own perceptions of their designs. Dealing with real clients, the emphasis needs to be more on what's in it for the client."

Secondary research findings that described how non-design courses are often prioritized lower than design courses (Lockheart et al., 2004, p. 98) were also supported by comments:

- "The required English & Writing classes were populated only with fellow architecture students, not a mix with the liberal arts or engineering students – and the message was clear: 'This class is a requirement, but I (the professor) know that your most important focus will always be on Studio activities';" and
- "Schools . . . focused more on the desgin (sic) product than communication skills. Except for making presentations to a design jury, i (sic) do not recall an emphasis on written tasks or publci (sic) speaking."

The final two questions on the architect survey asked for additional feedback about communication studies within architectural education, either specific to the respondent's education or in general; and feedback about communication skills within architectural practice, again either specific to the respondent's professional experience or in general. The optional, open-ended questions returned 85 and 67 optional answers, respectively.

Responses about communication studies within architectural education ranged from recommendations for students to recollections of courses the individual could/should have taken during undergraduate education. As in the case of the previous question's optional comments, it is impossible to quantify in terms of positive or negative feedback or to make generalizations about perceptions. However, the majority of the 85 respondents who opted to include a comment described weaknesses in present

architectural education, and the differing degrees of importance placed on communication skills in academia and in practice:

- "Communication is one of the most critical skills required in the profession and greatly under emphasized and taught in architectural education;" and
- "If you ever wish to have your own practice or be in a project management or lead design role, communication skills are essential;" and
- "Writing skills are extremely important in being able to progress in your architectural career. An architect without technical writing skilld (sic) cannot manage projects. An architect without letter writing skills cannot manage construction. An architect without proposal writing skills will have a harder time rising to firm management;" and
- "People who are successful in architecture, including those who become owners and principals of successful firms are, almost without exception, extremely good communicators. Architecture schools neither emphasize nor teach those skills;" and
- "When you're in school, no one tells you how important marketing is in architectural practice."

Several respondents described their personal experiences:

- "I wish I spent time during my school years honing my writing skills;" and
- "If i (sic) could do it over again, i (sic) would take several business courses and several public relations / or communications courses as an undergrad;" and

- "I wish my education had focused more on the business and communication aspect of my profession. Everything we did was focused on design;" and
- "My architectural education prepared me to debate architectural theory and critique in an academic culture, but not professional interaction with clients, non-architects, colleagues, subordinates, or the other folks we deal with in real life."

Other comments emphasized challenges and recommendations:

- "Writing skills should be better developed in the 12 years of primary and secondary schooling;" and
- "Architecture is such a demanding curriculum in itself that there is no time left for the other skills required for a successful business practice;" and
- "Architecture education tends to be very theoretical and thus not a good base for real-life discussions. If architectural design problems were balanced with theory and practice it would be more well rounded."
- "Current training in schools are lacking in business skills. Students enter the professional arena without any preparation in how to work with others and the basic fundamentals of business."

The final open-ended question asked respondents to provide additional feedback about communication skills within architectural practice, based on their own experiences or in general. As in the case of previous comments, it is difficult to quantify exact perceptions about communication in architecture.

Fifteen respondents (22.4 percent) described additional training, that they had either taken or that they recommended for others pursuing architectural careers:

- "I now wish I had had more training in communication skills when I was in college;" and
- "Initial training can help in getting you a strong foundation on which to build;" and
- "Since I've had my own practice (25 years) I've taken more marketing and presentation skills seminars than any other kind of class;" and
- "My participation in DuPont sales training classes made the difference for me;" and
- "Take public speaking courses or enroll in toastmasters;" and
- "At school we were trained in how to . . . graphically present a project – but were not coached in public speaking. I learned public speaking techniques in professional training seminars after college;" and
- "While the undergraduate curriculum is typically overstuffed already, perhaps there is a way to increase writing and verbal skills within the structure of the required courses. But remember that most faculty came through this same type of program so perhaps a complementary faculty support is required;" and
- "It shouldn't be this difficult to require some communication and very importantly, negotiation, courses as part of the curriculum."

Additional comments provided deeper insights into the challenges of communication in architecture on an academic level, practice level, and as these challenges affect the professional as a whole:

- "Many architects are poor communicators. In school, it is sometimes felt that the design itself will win the day. That's not the case and in fact, a client will appreciate the design even more if the concepts and solutions presented are communicated in a way that is understandable and meaningful to them;" and
- "The best communicators seem to excel in this field;" and
- "People without good communication skills have less chance of advancing in my architecture company."
- "Architects are notoriously good at speaking to other Architect (sic) and (in most cases) ridiculously bad at speaking to everyone else;" and
- "Most architects believe they are accomplished public speakers and communicators but the opposite is true. Only a few make the time to know the audience and convey meaningful content in a manner that is clear and concise;" and
- "I believe the role of the architect has been compromised in part because we have not done a good job in communicating the value we bring to projects;" and
- "As a profession, we underestimate the criticality of [communication];" and
- "We as a profession have not adequately communicated what architecture is all about and particularly its value both economic and social."

Chapter 5:

Conclusions and Recommendations

Hypotheses and Interpretation

H1: It was expected that few, if any, NAAB-accredited U.S. undergraduate architecture programs offer practice-specific communication studies.

The curricular content analysis performed by this researcher revealed that 36 of 47 academic programs investigated include one or more *required* English, writing, or other communication courses. However, only five of the 36 (13.8 percent) *require* communication coursework that appears to be directly related to architectural practice. The content analysis also revealed that eight of ten programs specifying *elective* communication options (17.0 percent) offer practice-specific choices. Hypothesis 1 was supported by this research.

H2: It was expected that architectural educators would express the belief that communication skills are important to their students.

The academic survey distributed by the researcher to architectural educators in dean or program director positions returned results indicating 100 percent of respondents agree the importance of communication rates important or very important. Two of 23 respondents (9 percent) indicated important, while the remaining 21 (91 percent)

indicated very important, the highest-possible rating score. The survey results support Hypothesis 2.

H3: It was expected that architectural educators place lesser value on communication studies within architecture education when compared to design and theoretical training.

The curricular content analysis illustrated a limited emphasis on communication studies within architecture education. Only 36 of 47 programs (76.6 percent) require one or more English, writing, or communication courses. The remaining 11 programs either do not require or offer communication coursework of any kind. Seven of the academic survey respondents (30.4 percent) indicated professional practice-related communication skills, including marketing and public relations, are not taught to architecture students.

The argument made by several survey participants that studio critiques, jury presentations, and Professional Practice coursework (that 44 of 47 programs offer) provide adequate communication training is evidenced by ten architect respondents (22.2 percent) who cited presentations in the studio environment as a communication component of their education, and by the following academic survey comments:

"Public relations is addressed specifically in a required professional practice course and more generally in studio courses;" and

"Verbal and graphic communication are broadly covered over the course of 10 semesters of design education."

From this indication, it can be inferred that programs may teach practice-specific communication under the guise of professional practice education or in studio

coursework without necessarily describing it as such in the course overview. Additional research may investigate the efficacy of teaching communication in such a manner. Based on this research, Hypothesis 3 is supported.

H4: It was expected that registered architects would express the belief that communication skills are very important to their practice.

The architect survey distributed by this researcher to registered architects across the U. S. returned results indicating 100 percent of respondents agree the importance of communication rates important or very important. Eight of 146 respondents (5 percent) indicated important, while the remaining 138 (94 percent) indicated very important, the highest-possible rating. Optional comments emphasized the importance of communication skills to individual architects and practices:

- "Architecture as a practice is a communication process from start to finish;" and
- "Being able to write and speak clearly, distinctly, and with a sound approach to what you are trying to convey is every bit as important as being able to design and draw;" and
- "Communication is absolutely critical to architects because 'architectural services' are not defined in fixed units or quality of those services is not measurable on scale that all parties agree to. Therefore communication to clients before, during, and after services are provided and within the architect's office and on the project team communication of expectations is critical."

The survey results support Hypothesis 3.

H5: It was expected that registered architects would express the belief that their architectural education did not adequately prepare them for the communication skills required in architectural practice.

The architect survey distributed by this researcher to registered architects across the U. S. asked respondents directly, "Did your architecture education prepare you for the communication aspects of architectural practice?" The majority of respondents – 104 out of 146 answered no. Optional comments provided further insights into shortcomings in communication training within architectural education:

- " Architecture students are taught to talk about their own perceptions of their designs. Dealing with real clients, the emphasis needs to be more on what's in it for the client;" and
- "The required English & Writing classes were populated only with fellow architecture students . . . and the message was clear . . . your most important focus will always be on Studio activities."

The survey results support Hypothesis 5.

Researcher Interpretation

Both in the collected data and in the research process, this researcher noted details that further illustrate the larger issue of communication within architectural education and practice.

Survey participation is a case in point. The architect survey demonstrated 146 registered architects willing to share their feedback on the topic; these architects were approached only via email with little or no advance description of the research. Architect participants from across the country, the majority of whom are partners or principals in architecture firms (82 respondents or 56.1 percent), took time from their daily responsibilities to offer feedback and contribute to the research. Academic participants, on the contrary, were much more difficult to obtain. Despite personal phone calls by this researcher to each of the 47 accredited architecture programs and follow-up emails with details of the research, only 23 academic representatives (46.9 percent) responded to the survey. Further study is required to determine if two academic respondents' comments may speak to the general perceptions of communication and the associated lack of interest in this research:

- "Communication skill development is very important; whether there is sufficient room in the curriculum to expand the treatment through formal coursework is debatable;" and
- "I do not believe a special 'professional communications' focus (as you define in the introduction) is needed in the curriculum."

Recommendations for Future Research

This researcher identified several methodologies for additional research, wherein specific communication components – writing, public speaking – could be evaluated in greater detail, both at the academic level and in professional practice, or wherein the methodologies utilized in this study might be repeated under different parameters.

A future curricular content analysis may be performed at a more detailed level, with additional time and resources devoted to reviewing materials. Curricular details may be acquired directly from each program in hard-copy format rather than relying solely on Web-published information, which may or may not be the most-accurate data available. A content analysis may also be expanded to include graduate architectural programs or the liberal arts-based B.A. and B.S. programs that are not accredited by the NAAB. These programs with more freedom to design curricula may have the flexibility to incorporate more or different types of communication studies.

Additional methodologies may include personal interviews with deans or leading faculty members to garner more feedback and participation than was obtained using electronic surveys. Even with this researcher making personal phone calls in advance, more than half of the programs' lead representatives declined to respond or participate. Focus groups with practicing architects may be conducted to refine the detail obtained on the surveys.

In future research, the combination of formal, academic architecture education in tandem with its structured, workplace-based IDP training may also be explored in greater detail. The notion that communication aspects of practice may be adequately absorbed during IDP and are less important in academia might be examined through the use of focus groups or panel discussions with architects, academics, and accrediting-board representatives who together may elicit deeper, more robust dialogue than when those populations are segregated.

Future research might also explore specific aspects of communication training for architecture students, such as how colleges and universities are working to improve

writing skills as described in Bhagat and O'Neill (2009), Haggstrom (2008), and Lockheart et al. (2004).

While this study focused on a broad examination of communication in undergraduate education and communication skills in general architectural practice, a more specific research project could drill deeper into perceptions of adequate training, skill levels, professional necessity, and how specific communication skills (or lack thereof) might impact one's professional success in the field of architecture.

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Appendix A
NAAB-Accredited Architecture Programs List

	College/University Program/Department City, State	Contact Name Title Email	Web site Telephone	2011 Call Date
1	Auburn University College of Architecture, Design and Construction Auburn, AL	David W. Hinson, FAIA Head david.hinson@auburn.edu	www.cadc.auburn.edu 334.844.4516	17-Feb
2	Boston Architectural College School of Architecture Boston, MA	Jeffrey Stein, AIA Head/Dean jeffrey.stein@the-bac.edu	www.the-bac.edu/x274.xml 617.262.5000	29-Jan
3	California College of the Arts School of Architecture San Francisco, CA	Ila Berman Director iberman@cca.edu	www.cca.edu 415.703.9516	23-Jan
4	Ca. Polytechnic State University, San Luis Obispo College of Architecture and Environmental Design San Luis Obispo, CA	Henri T. de Hahn Head hdehahn@calpoly.edu	www.arch.calpoly.edu 805.756.1316	23-Feb
5	Ca. State Polytechnic University, Pomona Department of Architecture Pomona, CA	Judith Sheine Chair jesheine@csupomona.edu	www.csupomona.edu/~arc/ 909.869.2683	23-Feb
6	Carnegie Mellon University School of Architecture Pittsburgh, PA	Stephen R. Lee, AIA Head stevelee@cmu.edu	www.cmu.edu/architecture 412.268.2355	24-Jan
7	City College of the City University of New York Spitzer School of Architecture New York, NY	George Ranalli Dean gr1@ccny.cuny.edu	http://csauth.ccny.cuny.edu 212.650.6225	24-Jan
8	The Cooper Union Chanin School of Architecture New York, NY	Anthony Vidler Dean vidler@cooper.edu	www.cooper.edu 212.353.4220	24-Jan
9	Cornell University College of Architecture, Art and Planning Ithaca, NY	Dagmar Richter Chair arch_chair@cornell.edu	www.architecture.cornell.edu 607.255.5236	17-Feb
10	Drexel University Department of Architecture Philadelphia, PA	Paul Hirshorn, AIA Head hirshorn@drexel.edu	www.drexel.edu/comad/architecture 215.895.2409	17-Feb
11	Drury University Hammons School of Architecture Springfield, MO	Michael J. Buono, AIA Director mbuono@drury.edu	www.drury.edu 417.873.7288	24-Jan
12	Florida A&M University School of Architecture Tallahassee, FL	Rodner B. Wright, AIA Dean rodner.wright@famu.edu	www.famusoa.net 850.599.3244	24-Jan
13	Florida Atlantic University School of Architecture Fort Lauderdale, FL	Deirdre Hardy Director dhardy@fau.edu	www.fau.edu/arch 954.762.5654	17-Feb
14	Howard University School of Architecture and Design Washington, DC	Bradford Grant, AIA, NOMA Director no email	www.howard.edu/ceacs 202.806.7424	24-Jan
15	Illinois Institute of Technology College of Architecture Chicago, IL	Donna V. Robertson, FAIA Dean robertson@iit.edu	www.iit.edu/~arch 312.567.3260	24-Jan
16	Iowa State University Department of Architecture Ames, IA	Calvin Lewis Chair calewis@iastate.edu	www.design.iastate.edu 515.294.4717	24-Jan
17	Louisiana State University School of Architecture Baton Rouge, LA	Jori Ann Erdman, AIA, LEED AP Director jerdman@lsu.edu	www.design.lsu.edu/architecture 225.578.6885	24-Jan
18	Mississippi State University School of Architecture Mississippi State, MS	Michael Berk Interim Director mberk@caad.msstate.edu	www.caad.msstate.edu 662.325.2202	24-Jan

Appendix A (continued)
NAAB-Accredited Architecture Programs List

	College/University Program/Department City, State	Contact Name Title Email	Web site Telephone	2011 Call Date
19	New Jersey Institute of Technology School of Architecture Newark, NJ	Urs Gauchat Dean gauchat@njit.edu	www.njit.edu/directory/academic/soa 973.596.3080	24-Jan
20	New York Institute of Technology School of Architecture and Design Old Westbury, NY	Judith DiMaio, AIA Dean jdimaio@nyit.edu	http://iris.nyit.edu/architecture 516.686.7594	17-Feb
21	NewSchool of Architecture and Design San Diego, CA	Steve Altman, Ph.D. President saltman@newschoolarch.edu	www.newschoolarch.edu 619.684.8777	24-Jan
22	North Carolina State University School of Architecture Raleigh, NC	Robin Abrams, AIA, ASLA Head robin_abrams@ncsu.edu	www.ncsu.edu/design 919.515.8350	24-Jan
23	Oklahoma State University School of Architecture Stillwater, OK	J. Randall Seitsinger Head randy.seitsinger@okstate.edu	http://architecture.ceat.okstate.edu 405.744.6043	23-Feb
24	Pennsylvania State University Department of Architecture University Park, PA	Daniel Willis Head dew2@psu.edu	www.arch.psu.edu 814.865.9535	17-Feb
25	Philadelphia University School of Architecture Philadelphia, PA	Vini Nathan, Ph.D. Dean nathanv@philau.edu	www.philau.edu/architecture 215.951.2896	29-Jan
26	Pratt Institute School of Architecture Brooklyn, NY	Thomas Hanrahan Dean hanrahan@pratt.edu	www.pratt.edu/school_of_architecture 718.399.4304	17-Feb
27	Rennselaer Polytechnic Institute School of Architecture Troy, NY	Evan Douglis Dean no email	www.arch.rpi.edu 518.276.6466	3-Mar
28	Rhode Island School of Design Architecture Department Providence, RI	Lynnette Widder Head lwidder@risd.edu	www.risd.edu 401.454.6281	29-Jan
29	Rice University School of Architecture Houston, TX	Sarah M. Whiting Dean sarah.whiting@rice.edu	http://arch.rice.edu 713.348.4044	23-Feb
30	Southern California Institute of Architecture Los Angeles, CA	Eric Owen Moss, FAIA Director directors_office@sciarc.edu	www.sciarc.edu 213.613.2200	4-Mar
31	Southern Polytechnic State University School of Architecture, Civil Eng. & Construction Marietta, GA	Wilson Barnes Dean wbarnes@spsu.edu	http://architecture.spsu.edu 678.915.7253	31-Jan
32	Southern University and A&M College School of Architecture Baton Rouge, LA	Lonnie Wilkinson Interim Dean lonnie_wilkinson@subr.edu	http://susa.subr.edu 225.771.3015	7-Mar
33	Syracuse University School of Architecture Syracuse, NY	Mark Robbins Dean robbinsm@syr.edu	http://soa.syr.edu 315.443.2256	3-Mar
34	Temple University Architecture Dept. of the Tyler School of Art Philadelphia, PA	Kate Wingert-Playdon Chair mwingert@temple.edu	www.temple.edu/architecture 215.204.8813	17-Feb
35	Tuskegee University College of Eng., Architecture & Physical Sciences Tuskegee, AL	Richard Dozier, Ph.D. Head no email	www.tuskegee.edu 334.727.8329	17-Feb
36	University of Arizona College of Architecture and Landscape Architecture Tucson, AZ	Janice Cervelli, FASLA, FCELA Dean jcervell@email.arizona.edu	www.architecture.arizona.edu 520.621.6754	7-Mar

Appendix A (continued)
NAAB-Accredited Architecture Programs List

	College/University Program/Department City, State	Contact Name Title Email	Web site Telephone	2011 Call Date
37	University of Arkansas Fay Jones School of Architecture Fayetteville, AR	Jeff Shannon Dean jshannon@uark.edu	http://architecture.uark.edu 501.575.4945	4-Mar
38	University of Houston Hines College of Architecture Houston, TX	Joseph Mashburn Dean poliver@uh.edu	www.arch.uh.edu 713.743.2400	7-Mar
39	University of Kansas School of Architecture and Urban Planning Lawrence, KS	Keith Diaz Moore Chair diazmoor@ku.edu	www.saup.ku.edu 785.864.4281	4-Mar
40	University of Miami School of Architecture Coral Gables, FL	Elizabeth Plater-Zyberk Dean epz@miami.edu	www.arc.miami.edu 305.284.5000	3-Mar
41	University of North Carolina at Charlotte School of Architecture Charlotte, NC	Christopher Jarrett Director chjarrett@uncc.edu	www.soa.uncc.edu 704.687.2336	3-Mar
42	University of Notre Dame School of Architecture Notre Dame, IN	John W. Stamper Associate Dean stamper.1@nd.edu	http://architecture.nd.edu 574.631.6137	4-Mar
43	University of Oklahoma College of Architecture Norman, OK	Joel Dietrich Director dietrich@ou.edu	http://arch.ou.edu 405.325.2444	4-Mar
44	University of Oregon School of Architecture and Allied Arts Eugene, OR	Christine Theodoropoulos Head ctheodor@uoregon.edu	http://architecture.uoregon.edu 541.346.3656	24-Jan
45	University of Southern California School of Architecture Los Angeles, CA	Qingyun Ma Dean no email	www.usc.edu/dept/architecture 213.740.2083	24-Jan
46	University of Tennessee, Knoxville College of Architecture and Design Knoxville, TN	John McRae Dean jmcrae1@utk.edu	www.arch.utk.edu 865.974.5265	4-Mar
47	University of Texas at Austin, The School of Architecture Austin, TX	Frederick Steiner Dean fsteiner@austin.utexas.edu	www.soa.utexas.edu 512.471.1922	24-Jan
48	Virginia Tech School of Architecture + Design Blacksburg, VA	Scott Poole, AIA Director spoole@vt.edu	www.caus.vt.edu 540.231.7200	17-Feb
49	Woodbury University School of Architecture Burbank, CA	Norman Miller, AIA Dean norman.millar@woodbury.edu	www.woodbury.edu 818.252.5121	24-Jan

Appendix B
Curricular Content Analysis Details

College/University	Review Date	Required	Elective	Other	Quick Tabulation				
					required communication	required practice communication	elective communication	elective practice communication	professional practice
Auburn University	25-Feb	English Composition I & II; Core Literature I & II; Professional Practice	Interdisciplinary professional elective (not detailed)	offers collaborative Master of Real Estate Development program jointly through College of Architecture and College of Business	1	0	0	0	1
Boston Architectural College	25-Feb	Expository Writing; Research Writing; Professional Practice Management		concurrent learning model (work-study)	1	0	0	0	1
California College of the Arts	25-Feb	English I & II; Literature Seminar; Professional Practice			1	0	0	0	1
California Polytechnic State University, San Luis Obispo	25-Feb	Professional Practice	Professional electives (not specified)	opportunities to work full- or part-time for credit	0	0	0	0	1
California State Polytechnic University, Pomona	25-Feb	Freshman English 2; Advocacy and Argument; Architectural Practice	Business Development in Architecture		1	0	1	1	1
Carnegie Mellon University	25-Feb	Interpretation & Argument; Issues of Practice			1	0	0	0	1
City College of the City University of New York	25-Feb	Freshman Inquiry Writing Seminar; Professional Management			1	0	0	0	1
The Cooper Union	25-Feb	Freshman Seminar: Texts & Contexts; Professional Practice			1	0	0	0	1
Cornell University	25-Feb	Professional Practice	Freshman Writing (suggested elective); Sojourns architectural publications writing course		0	0	1	1	1
Drexel University	25-Feb	Expository Writing & Reading; Persuasive Writing & Reading; Analytical Writing & Reading; Professional Practice I & II		work-study program; one of only 2 programs in country with part-time evening study for working adults	1	0	0	0	1
Drury University	12-Mar	Professional Practice	Professional Communication (see note)	An in-depth exploration and development of oral, written, and graphic communication techniques and skills in professional architectural practice. This course examines communication between the architect and public, architect and client, architect and contractor, and architect and regulator with emphasis on technical communication methods.	0	0	1	1	1
Florida A&M University	12-Mar	English; Architectural Practice I & II		complies with FL's "Gordon Rule" requiring 12 semester hours of English coursework where students produce written work of at least 24,000 words	1	0	0	0	1
Florida Atlantic University	12-Mar	College Writing 1 & 2; Professional Practice I, II & III		interdisciplinary program lets students work with community of "allied professionals, artists, builders, developers, manufacturers, and government agencies	1	0	0	0	1
Howard University	12-Mar	English I & II; Professional Practice			1	0	0	0	1

Appendix B (continued)
Curricular Content Analysis Details

College/University	Review Date	Required	Elective	Other	Quick Tabulation				
					required communication	required practice communication	elective communication	elective practice communication	professional practice
Illinois Institute of Technology	12-Mar	Architectural Practice	Entrepreneurship & Innovation in Architecture (must be in 5th year to take) emphasizes operating a small business		0	0	1	1	1
Iowa State University	12-Mar	Written, Visual, Oral & Electronic Communication; Design Collaboration Seminar; Professional Practice; university communication elective			1	1	0	0	1
Louisiana State University	12-Mar	English I & II	15 credits of professional electives, including Professional Practice		1	0	0	0	1
Mississippi State University	12-Mar	English Composition I & II; Architectural Practice	large list of approved electives in communication listed on arch website: Fundamentals of Public Speaking; Principles of Public Relations; Interviewing in Communication; Elements of Persuasion; Principles of Marketing		1	0	1	0	1
New Jersey Institute of Technology	12-Mar	English 101/102; Professional practice	Literature (or history) elective		1	0	1	0	1
New York Institute of Technology	12-Mar	Writing I & II; Foundations of Speech Communication; Communication for Art & Design; Professional Practice			1	1	0	0	1
NewSchool of Architecture and Design	12-Mar	Speech Communication; English Composition; Advanced English Composition; Intro to Research; Research & Communication; Intro to Professional Practice; Professional Practice	Specifications Writing; Office Practice; Media Communications; Community Consensus Building		1	0	1	1	1
North Carolina State University	12-Mar	English 101			1	0	0	0	0
Oklahoma State University	12-Mar	English			1	0	0	0	0
Pennsylvania State University	12-Mar	English Composition; Effective Writing; Effective Speech; Architectural Professional Practice			1	0	0	0	1
Philadelphia University	12-Mar	Writing Seminar 1 & 2; Professional Management			1	0	0	0	1
Pratt Institute	12-Mar	English 101 & 103; Intro to Literary & Critical Studies 1 & 2; Professional Practice			1	0	0	0	1
Rensselaer Polytechnic Institute	12-Mar	Professional Practice	12 credits of professional electives (not specified)		0	0	0	0	1
Rhode Island School of Design	12-Mar	Principles of Professional Practice			0	0	0	0	1
Rice University	12-Mar	Professionalism & Management in Architectural Practice			0	0	0	0	1

Appendix B (continued)
Curricular Content Analysis Details

College/University	Review Date	Required	Elective	Other	Quick Tabulation				
					required communication	required practice communication	elective communication	elective practice communication	professional practice
Southern California Institute of Architecture	12-Mar	Writing in Architecture 1 & 2; Practice Environments (contracts, liability, business models)		"The class helps undergraduates improve their English language usage and composition skills. Students read literary and architectural theory, and respond to the work in their writing. Goals for the course are to develop a vocabulary to discuss studio projects; conduct research based on primary and secondary sources; compose and rewrite an essay in preparation for upper-division Cultural Studies assignments; and draft a basic proposal to fund projects. These are supplemented by in-class creative writing assignments to better perceive writing "off the page."	0	1	0	0	1
Southern Polytechnic State University	12-Mar	English Composition 1 & 2; Public Speaking 2; Professional Practice & Ethics			1	0	0	0	1
Southern University and A&M College	7-Mar	Architecture Practicum (see note); Professional Practice 1 & 2; Matriculation Seminar (see note)		Practicum: "the objective of this course is to prepare students for their co-op experiences by introducing them to both the expectations and the workings of an office in relation to the Internship Development Program" Seminar: mentions prep not only of portfolio but of writing samples	0	0	0	0	1
Syracuse University	12-Mar	Professional Practice			0	0	0	0	1
Temple University	12-Mar	Analytical Reading & Writing; Professional Practice			1	0	0	0	1
Tuskegee University	website not functioning; unable to perform content analysis								
University of Arizona	12-Mar	Freshman English 1 & 2; Ethics and Practice			1	0	0	0	1
University of Arkansas	12-Mar	English Composition 1 & 2; Leadership by Design 1 & 2; Professional Practice	15 credits of professional electives (not specified)		1	0	0	0	1
University of Houston	12-Mar	Freshman Composition 1 & 2		online course catalog under construction	1	0	0	0	0
University of Kansas	no longer accredited								
University of Miami	13-Mar	English Composition 1 & 2; Management of Professional Practice	professional elective indicated for year 3 (not specified)		1	0	0	0	1
University of North Carolina at Charlotte	13-Mar	English Composition: Writing in the Academic Community; Professional Practice	year 4 writing intensive options		1	0	0	0	1
University of Notre Dame	13-Mar	Analysis of Architectural Writings; Professional Practice		architectural practice and enterprise concentration requires courses in accounting, management but not communication	0	1	0	0	1

Appendix B (continued)
Curricular Content Analysis Details

College/University	Review Date	Required	Elective	Other	Quick Tabulation				
					required communication	required practice communication	elective communication	elective practice communication	professional practice
University of Oklahoma	13-Mar	Principles of English Composition 1 & 2; Expository Writing; Professional Practice 1 & 2	architectural marketing elective offered at graduate level (not clear if undergraduates are eligible to take it)		1	0	1	1	1
University of Oregon	13-Mar	English Composition 1 & 2; Context of the Architectural Profession (see note)		"Introduction to the professional practice of architecture and related careers. Examines marketing; the professional, legal, and regulatory environment; firm organization and management; contractual issues; and the construction process.""	1	0	0	0	1
University of Southern California	12-Mar	8 units of writing requirements; Professional Practice	Arch Studies capstone project requires collaboration and research paper; Research & Documentation Techniques covers writing skills	Design Communication is a category, but no courses are listed	1	0	1	1	1
University of Tennessee, Knoxville	12-Mar	English Composition I & II; Communicating Orally Effectively; Professional Practice			1	0	0	0	1
University of Texas at Austin, The	12-Mar	Rhetoric and Composition; Masterworks of Literature; Tech Communications; Professional Practice			1	1	0	0	1
Virginia Tech	12-Mar	Freshman English Writing & Discourse (2 classes); Professional Practice	Professional Studies		1	0	0	0	1
Woodbury University	14-Mar	Public Speaking; Academic Writing I & II; Information Theory & Practice	Rhetoric & Design; Communication Theory; Interpersonal Communication; Media Culture; Journalism; Crisis Communication and others		1	0	1	1	1
					36	5	10	8	44
					required communication	required practice communication	elective communication	elective practice communication	professional practice
					TOTALS				

Appendix C
Architect Survey: Question 5 States Represented

*** Please indicate the state in which your primary office is located.**

Answer	Number of Responses	Response Ratio
Alabama	2	1.4
Alaska	3	2.1
Arizona	1	0.7
Arkansas	2	1.4
California	1	0.7
Colorado	1	0.7
Connecticut	1	0.7
Delaware	1	0.7
District of Columbia	**5**	**3.4**
Florida	1	0.7
Georgia	2	1.4
Hawaii	**10**	**6.8**
Idaho	2	1.4
Illinois	2	1.4
Indiana	1	0.7
Iowa	2	1.4
Kansas	1	0.7
Kentucky	2	1.4
Louisiana	1	0.7
Maine	1	0.7
Maryland	1	0.7
Massachusetts	1	0.7
Michigan	1	0.7
Minnesota	**4**	**2.7**
Mississippi	1	0.7
Missouri	1	0.7
Montana	1	0.7
Nebraska	1	0.7
Nevada	2	1.4
New Hampshire	2	1.4
New Jersey	**4**	**2.7**
New Mexico	1	0.7
New York	**7**	**4.8**
North Carolina	1	0.7
North Dakota	2	1.4
Ohio	3	2.1
Oklahoma	3	2.1
Oregon	3	2.1
Pennsylvania	**47**	**32.2**
Rhode Island	**4**	**2.7**
South Carolina	1	0.7
South Dakota	1	0.7
Tennessee	1	0.7
Texas	1	0.7
Utah	1	0.7
Vermont	2	1.4
Virginia	2	1.4
Washington	1	0.7
West Virginia	2	1.4
Wisconsin	1	0.7
Wyoming	1	0.7
Total	**146**	

Appendix D
Architect Survey: Question 8 Comments

*** On the scale below, please rate the importance of communication skills in your architectural practice**

	Comment	Rating Score
1	hand drawing skills, written and spoken word skills in addition to the usual CAD skills.	5
2	Architecture as a practice is a communication process from start to finish	5
3	My clients are primarily homeowners who are working with an architect for the first time. In this situation it is crucial that I explain and communicate thee design/construction process in a way that is understandable for a lay person yet not overwhelming or intimidating.	5
4	This is a pretty obvious answer and can't possibly understand how any practicing architect would answer otherwise.	5
5	MY PRACTICE HAS SUCCEEDED BECAUSE OF FACE-TO-FACE COMMUNICATION SKILLS. IT'S IMPORTANT THAT A CLIENT CAN COMMUNICATE HIS THOUGHTS TO YOU AND THEN YOU COMMUNICATE YOUR CLIENTS (SIC) DESIRES TO YOUR STAFF. THE RESULTANT DESIGN CAN ONLY BE SUCCESSFUL IF THE REQUIRED THOUGHTS ARE PROPERLY COMMUNICATED BETWEEN THE INVOLVED PARTIES.	5
6	Both outward and inward communication skills are important. Clients must have confidence in what you are telling them and also that you are hearing what they say to their architect.	5
7	Being able to write and speak clearly, distinctly, and with a sound approach to what you are trying to convey is every bit as important as being able to design and draw. Probably more important, 75% of the time.	5
8	communication with clients, consultants, jurisdictional reviewing authorities, everything is THE key to any successful endeavor.	5
9	Half the challenge is Business Development. Communicataion is key to our profession!	5
10	Not only must Architects sell their services, but they also must convince their clients to execute their designs.	5
11	Clear communication on all levels with in (sic) the profession is the ultimate goal to make the process of architecture work. Communication between all parties, clitnents (sic), staff, contractors, suppliers is essential as well as full documentation of all communications.	5
12	Writing skills are very important in our practice. Not necessarily within the earlier years of your professional career but especially as you deal more with the owner and with the contractor. Similarly as you advance in your career public speaking gains greater importance. The ability to communicate within a team setting or working within a team setting is important right out of school and at the start of ones (sic) professional career.	5
13	The ability to communicate appropriately is critical when establishing credibility with new and prospective clients.	5
14	Although drawings and other communication documents are communication tools, interpersonal communication (speaking, presenting, writing) is essential to getting ideas across and developing design solutions that meet client needs and expectations.	5
15	Client-architect communication is of course important. Streamlining communication along the design-implementation continuum implies refinement in project delivery methods, such as increased design-build.	5
16	team communication is very important within the firm; being able to communicate complex ideas with the client	5
17	The practice of archtecture (sic) is a process of translation: from stated and implied client needs and goals to the project team of archtects (sic), engnineers (sic), and consultants, to a graphic representation that a contractor must make concrete.	5
18	An Architect's primary role is as translator. Listening to a clients (sic) needs and desires, then translating them through a balance of code requirements, artistry and budget into a functional, beautiful and safe built environment.	5
19	A design solution rationale is very rarely self-evident, consequently one frequently needs to describe and explain what is proposed . . . selling the idea.	5
20	If you can't communicate your ideas, you are dead in the water!	5
21	More architects get in trouble due to misunderstandings with their clients both verbal and written.	5
22	Success in Architecture is all about strong communication both verbally and graphically. Design should be a free flowing interaction of ideas, vision, goals and physical considerations leading to a design that provides an environment to promote the operations of the facilities (sic) users.	5
23	That was something that wasn't considered important for my degree where I went to school.	5
24	Failure to communicate with your client is cause of most client/architecture disagreements and failures. Salesmanship (commnuncation (sic)) is the only tool we have to engage with potential clients. Few clients have any knowledge about "Big D" design.	5
25	Communication between architect and client of highest importance	5
26	Mostly around educating clients, public, about the value of architecture	5
27	As architects we can not build on our own. We need to collaborate with other designers, our clients, and builders to realize our vision.	5

Appendix D (continued)
Architect Survey: Question 8 Comments

*** On the scale below, please rate the importance of communication skills in your architectural practice**

	Comment	Rating Score
28	verbal and written communication skils (sic) are essential. So is e-mail or electronic communication protocol.	5
29	In general I think architects have poor verbal skills as a consequence of its lack of emphasis in architecture school.	5
30	Information gathering and sharing with client, contractor, verbal and written. Must be articulate, honest and correct.	5
31	Graphic, verbal, and narrative skills must be utilized with greater accuracy and clarity thann (sic) at any time in the past thirty years.	5
32	A lot of people don't understand the differences in communication as well (meaning modes of communication). Some types of communication are appropriate for e-mail or text, other types really should occur in person. My impression is that this is something that is really misunderstood within all professions.	5
33	Architecture and the profession of architecture are all about communication - on all levels.	5
34	Frankly, there is nothing more important in my opinion. I hope that communication skills are treated on par with design skills in today's undergraduate programs. That was not the case when I attended college.	5
35	This is probably the single most important aspect of archtiecture, and very little if any time is devoted to teaching this effectively in colleges and universities. Most problems we deal with could be mitigated with clear and timely communication.	5
36	Excellent communication skills are required to be a good architect.	5
37	Communication occurs at every level. Written / Spoken / Graphic / Building is often an emotional driven endeavor - not simply creating space but creating a life-style.	5
38	Communication is absolutely critical to architects because 'architectural services' are not defined in fixed units or quality of those services is not measurable on scale that all parties agree to. Therefore communication to clients before, during, and after services are provided and within the architect's office and on the project team communication of expectations is critical.	5
39	We make numerous presentation (sic) each week and have meetings, letters, e-mail, reports, proposal (sic), drawings and specs constantly being created.	4
40	Ultimately we are in the people business, whether communicating with clients, consultants, contractors, vendors or the spaces we design for our clients which determine the level and type of desired communication needed to suit their business needs.	5
41	Our key task in our profession is to communicate three dimensional solutions to complex problems to those who are not trained in interpreting the 3D environment - communication becomes key to success.	5
42	There is nothing more important than communication; our non-traditional role manages the design processand (sic) is dependent on clear concise communication.	5
43	A set of construction documents is a tool for communicating design intent to a contractor. It must be succinct, unambiguous and specific in order to avoid misunderstandings and the resulting cost implications throughout the construction process.	5
44	Not mentioned previoulsy (sic), but the most difficult and important is being able to explain and discuss the design and technology of the a (sic) project.	5
45	one of the most important skills an individual can posess (sic).	5
46	communicating your ideas to your client is an everyday part of the job . . .	5
47	Proposals Interviews Negotiation Clear Communication of ideas/concepts Solicitation of distinct values, operations, requirements, preferences of client.	5
48	Communication, both verbal and written/graphic are critical to the success of a project and relationships with the client and contractors. Most litigation and dispute resolution actions are the result of poor communication. Our profession is far too focused on "telling" others what to do or how to do it and possesses minimal listening skill. As professionals we allow our egos and preconceptions to cloud the true issues and therefor (sic) we are not always addressing the correct issue.	5
49	As architects, communication is the only way we can express and convey our ideas. Commonly you would think that's done through what we draw/show, but not everyone can read our drawings (especially after graduation), and not everyone can draw to demonstrate their ideas adequately.	5
50	Clear annunciation (sic) of ideas is the biggest obstacle - coming from a purely visual/design background.	5
51	Without overstating the case, communication may be the most important skill an architect can have. The relationship between the architect and the owner, between the architect and the consulting engineers and between the architect and the construction people are all pivotal to producing a successful project. This communication is required on multiple levels. Verbal, written and visual including drawings and other documents.	5
52	The ability to communicate internally (to colleagues) and externally (to clients and the world outside one's ractice (sic)) is vitally important.	5

Appendix D (continued)
Architect Survey: Question 8 Comments

*** On the scale below, please rate the importance of communication skills in your architectural practice**

	Comment	Rating Score
53	One of the biggest stumbling blocks to individual advancement within the firm/profession is the widespread lack of fundamental writing skills, and the inability to dialogue verbally with clients - we have become much more introverted as a profession in the past 10-15 years.	5
54	at the end of the day, communication is what we do at this stage in our careers - understanding the client's needs, creating a response and communcating that response to the client	5
55	Communications in the office should include project management tasks such as writing meeting minutes as well as correspondence.	5
56	The ability to articulate your design is critical.	5
57	essential for staf (sic) and clients alike	5
58	Architecture is a team effort. Communication is very important.	5
59	See final comment: Trying to maintain artistry under the above condition puts communication as our only lifeline between our minds eye and the final building.	5
60	Communication skills include both presentation and technical drawings and writing skills.	5
61	Presentation skills are of utmost importance in communicating ideas and solutions to clients.	5
62	We have to be able to clearly communicate our values, the advantages and constraints of our design solutions to our clients. We must also concisely explain to contractors our expectations and and (sic) contractual requirements. These communication skills must be both verbal and written skills. Without these skills we cannot expect to acquire very many clients or have successful projects.	5

Appendix E
Architect Survey: Question 9 Comments

*** On the scale below, please rate the importance of each of the following communication skills to your architectural practice (optional comments)**

	Comment
1	THESE METHODS OF COMMUNICATION ARE EXTREMELY IMPORTANT TO DEVELOP THE PROJECT DESIGNS NECESSARY TO FULLFIL THE PROGRAMS COMMUNICATED.
2	Communication skills are all important in a practice.
3	reading/research, continuing education is also important!
4	I believe the ability to work with others in a team framework is an important skill to have as one starts their professional career. Architects think in graphic skills and are probably the most comfortable in this arena. Technical drawings is (sic) like writng a book they both tell a story and under both scenarios the story can be easy to read or made difficult by how one assembles their drawings.
5	Large scale models also allow multiple team players to design the same structure together.
6	My work involves writing RFPs as well as normal design-bid-build projects. Clear, concise writing is essential in conveying the requirements of a project verbally. Good writing skills facilitate communication with clients and help avoid or mitigate normal misunderstandings and miscommunications. Whether I am interviewing for a project or involved in a design review with staff and clients, the ability to speak and convey ideas clearly is critical to meeting the client's goals.
7	The perfect solution left unspoken is useless.
8	From responding to RFPs and maximizing other opportunities to convince people of your desirability as a design through working with clients to understand and meet their needs, sharing designs in a way they can understand, to then communicating with contractors/builders, communications skills are critically important.
9	Failure to communicate ideas or requirements of a project can result in problems that range from minor to catastrophic. There is no substitute for good communication. Good communication promotes good understanding and good understanding produces favor and a pleasant process. Without proper communication even the simplest project can become difficult and clients will not return to our firm for future work
10	To be successful in the ever competitve profession of architecture, you have to conceive then sell the design idea. During conception of the idea, graphic design and interpersonal communication take precedent. Once the idea is conceived it must be communicated in a convincing manner that generates enthusiasm for the idea and buy in from the client. This is where public speaking skills are critical.
11	As leader of multiple discipline teams you must communicate clearly the directions from your client and your directions on the goals of any project.
12	Essential in all aspects
13	public speaking less so important than others to be successful architect but if you want to market or ppublish (sic) and present then it is essential.
14	An architect without highly refined written, verbal, and graphic skills, the architect quickly becomes disadvantaged in collaborative tasks.
15	While I may be a good public speaker, I don't necessarily expect all of my staff to exhibit that same talent. Likewise, having a flare/understanding of graphic design is helpful, but not absolutely required.
16	The ability to accurately communicate, and then confirm that your audience has received your intended message is paramount to a successful practice. It also ensures long term client relationships.
17	You left out communication with clients.
18	Graphic design is 'very important' to our practice and we strive to improve the techniques and effectiveness of the methods we use to communicate programmatic information, design solutions, and contractual requirements. I told a lawyer once that 'we do what he does except we use pictures'. All that said, interpersonal communication is absolutely critical as noted above.
19	Writing - Contractural (sic) concerns, Risk protection, Constrcution (sic) Directives, etc. Also - writing skills in simple correspondence such as email is critical as it has far reaching implications and can at times be handled by lower level. Public Speaking - considered this to be presentations skills to clients - only impacts staff with client contact responsibilities but is critical. Graphic Design - still critical to communicat (sic) ideas visually. Interpersonal - critical to have full team on target.
20	All are important; in my businewss (sic) because it is non-traditional, the skills we developed in school, particularly graphics and public speaking are more important for certain individuals, but writing and interpersonal communication are most important.
21	What do you mean by "graphic design?" Design of graphics, or concrete subjects (e.g. building construction) communicated via graphic means?
22	A lot of time is wasted on a lack of directness in discussions about a project.
23	Although the firm may consider communication skills to be important, the firm often falls short of its goals in my opinion. What one person may consider good skills may be what another considers mediocre. I think our firm could raise the bar a bit.
24	By 'public speaking' I mean verbal communications with others outside the firm--clients, potential clients, product reps, agencies, project stakeholders, etc., and not exclusively formal presentations or speaking engagements.
25	See comment above. We do not train professionals in our industry to communicate from the perspective of the recepient (sic) or listener.
26	Architecture as a profession is performed as a team, internally or externally. However, we're not trained to do so. Architecture education programs should institute team projects as part of the curriculum, to acclimate students to the idea and reality of working in teams.

Appendix E (continued)
Architect Survey: Question 9 Comments

*** On the scale below, please rate the importance of each of the following communication skills to your architectural practice (optional comments)**

Comment

27 I assume by graphic design you mean visual presentation of the architect's ideas. By public speaking I mean verbal presentation of the ideas to the owner into other team members, sometimes in a formal setting, including sometimes in a public setting to a public body. Actually making presentations in a public setting is also a very important skill.

28 It is very important to be able to communicate ideas, and proposed architectural solutions in a manner most effective whether the medium is verbal, graphic or written.

29 Not everyone needs to be a featured public speaker, but everyone should be comfortable at a basic level sharing their thoughts within a team dialog (sic), or within larger settings such as planning boards, etc.

30 graphic design is different than presentation and rendering skills that more related to art and expresssion of a message or

31 My experience as an employer of architects is that they tend to have weak writign (sic) skills. My guess is that many entry level architects and desginers (sic) favor visual communication over written.

Appendix F
Architect Survey: Question 10 Comments

*** On the scale below, please rate the importance of each of the following communication skills to your architectural practice (optional comments)**

	Comment
1	Some of the answer depends if you are speaking of executing these skills yourself or with staff and consultants.
2	This exercise suggests that these are not equal. I think you are in danger of collecting irrelevant information with the assumption that some are more important than other (sic). This might ocassionally (sic) be true or true with a particular client but as a general rule I think these are equal.
3	You must first get along with yur (sic) co-workers, clients and consultants. Most communication is oral in meetings and presentations. The writing and graphics reinforce those means but are not primary.
4	I believe how one ranks these items depends upon ones (sic) position in the firm and where one is in their (sic) professional career. For example graphic skills is (sic) important for our practice but for me personally writing, speaking and team skills have greater importance with graphic skills being less so due to the tasks I perform in the firm.
5	I would say the list above may vary depending what type of position one holds in a large firm.
6	most of the project communication now happens by e-mail which makes writing the most important
7	The ranking is based on what is absolutely essential to work in an office as an architect. For the ower of a small office, they would all be "1."
8	In our increasingly letigious (sic) society, if it isn't written down, it didn't happen.
9	Tough one. They're all important. But if what we do is work with clients to develop designs to meet their needs, and then communicate those design solutions so they can be built, I think interpersonal skills and graphic design have to come first.
10	The priority of communication (as ranked above) is relative the the (sic) practice of architecture. In school, a different ranking is appropriate (and taught).
11	this ranking changes dramatically by setting. depends on whether overall firm marketing or project work and at what level of staff
12	Response speaks for itself. I believe that graphic design is probably the easiest of the four skills to learn and probably the one that is called upon least during my daily activities as an architect.
13	Some of these should be of equal importance.
14	Most projects require communication to a small group of people. The most important objective of communication is the creation of an environment.
15	Good diagrammatic graphics can convey quickly what it takes a lot of words. In a world where we have little time, great graphics are key
16	See comment above.
17	It is the project, not the people that are important. I know this from having worked for 2 respected and successfull (sic) architects. Although i (sic) think that communication majors will disagree.
18	This is a tough question as each form of communication is important dependent on the task at hand. All four can be important when meeting with a client or potential client. I have rated them, but I think they are equally important.
19	the importance of these skills will vary with one's advancement through their (sic) professional life. a young professional may need high graphic design skills than writing skills. however interpersonal skills and verbal communication skills are always important to possess.
20	I read "Graphic Design" as a refined, diagramatic (sic) interpretation of a concept that communicates in a way that words may not be suited for. This is different than architectural drawing - which is a physical construction document that communicates, in a literal fashion, the work to be completed. (This type of drawing would be ranked higher on the list, since it is the basis of an Architect's method of communication).
21	I had difficulty with the above rating system as I believe all 4 are vitally important and share equal importance for success or failure. Written and graphic skills are far and away the most important as they provide the documentation of what is being communicated and in the event of a dispute will support a particular perspective with very little room for interpretation.
22	Being able to express oneselve (sic) clearly and effectively is under-rated in this profession, especially when everyone you're working with comes with an ego.
23	Can't rank these. Not a good question. It's not meaningful to try to rank these skills. They are all virtually equally important. The above ranking is completely arbitrary and does not in any way reflect the relative importance of these skills.
24	Seems backwards to list graphics last - though that is what most people assume architects are about. In this age of computerized renderings, photoshop, etc...graphics are a minimum baseline skill...and something that can be 'found' widely available. An architect who can also write the proposal and speak well in the interview is a rare thing, and much harder to find.
25	These are all very important and it is somewhat difficult to rank them.
26	It's hard to rank these - they are all important, and each one may be the most important in a given situation.
27	Ranks 4,3 and 2 are VERY close to being equally important.
28	See bottom comment

Appendix G
Architect Survey: Question 11 Comments

*** On the scale below, please rate the importance of each of the following communication components to your architectural practice (optional comments).**

Comment

1 See previous comments.
2 no employees, if i did though, its very important arena for effective communications skills
3 How could any of these not be imporatnt?
4 As a general comment concerning our staff the younger employees seem very good in public speaking they seem to be less intimidated. However I find writing skills to be diminishing. people rely on boiler plate documents for example standard proposals but when you deviate from the standard or have to have a customized document the written skills are lacking. Marketing is a very important part of our practice as you try to get the word out concerning your work.
5 I don't practice marketing per se (altho perhaps I should). I focus more on the product being delivered and the process inherent to its production.
6 The rating is based on the office needs as a whole. The better an office can do in all categories, the better the office will be able to attract work. Good employee relations hopefully results in a better product.
7 I responded here specifically about my practice as a semi-retired sole practitioner. I let work come to me rather than seeking it, and I don't have any employees. Still, opportunities for media attention don't hurt.
8 We're a small office so employee relations are naturally personal and close. Nearly all our work is by referral such that marketing and public relations are oriented to providing information rather than closing the sale.
9 Sole practitioner. No employees.
10 The last one is based on when I used to have employees.
11 For this question and the next one I'm considering 'public relations' to be client and contractor relations since those are the primary venues our staff communicate. This and employee relations involve two-way communications which raises the importance to the practice.
12 Public Speakint - key to communicate with clietns.
13 Proposal Writing - needs to include Contract Writing - defines success and risk.
14 Marketing - more face to face than written.
15 Public Relations - only as pertains to problem resolution with team players - not critical with outside interestes.
16 Media - irrelevant - clients do not typically source architects from the media.
17 Employee - mandatory for both employee satisfaction and client satisifaction/retention.
18 All are important
19 I work in an in-house design department for a health-care system. We don't need to market because we have a built-in client.
20 obviously all these ablities contribute to a successfull practice,although any individusl is unlikely to be accopmplihed in all. Also these things do not allways carry the day.

Appendix H
Architect Survey: Question 12 Comments

*** On the scale below, please rank the six communication components: public speaking, proposal writing, marketing, public relations, media relations, and employee relations from the previous question, with 1 being least important and 6 being most important to your architectural practice.**

	Comment
1	I do mostly referral work or repeat client work, so i (sic) do not put an enormous amount of energy into the marketing aspects, other than a web page and some other typical marketing vehicles.
2	This is not a useful exercise. All are important. When you ask the responder to rank these you indicate you do not understand that they are all important. I tried to not answer this but your software would not allow that. That is a pity.
3	no employees, if i (sic) did though, it would rank as second most important arena for effective communications skills, behind proposal writing
4	I'm not sure that these are in the same category, so it's difficult to rate one against the other.
5	team building and concept development
6	The ranking reflects my job and projects within the office. As we have lots of repeat clients, client meetings also serve as marketing and public relations.
7	Again, I have responded about my personal practice. Were I running an office and pursuing work, the rankings would have been far different.
8	These are all of approximately equal weight in our office.
9	This was a difficult one to prioritize. It is a very fluid process and varies with markets, projects, and goals.
10	Architecture is a team effort. You need the buy in of all team members from beginning to end. I want our team to be committed to our solutions. That takes the ability to communicate the thought process and integrate the team input. I could not care less about what the media thinks or reports. We only concern ourselves with our client's satisfaction.
11	I consider 'public relations' to be client and contractor [and consultant and government official and other project participants] to be the 'public'.
12	It starts with employee relations. But even the 6th ranked item is important.
13	There is a distinct seperation between architects who are succesfull and estemmed (sic) and architects who are commercially succesfull (sic). Most pepole (sic) who are on the edges of the work are not aware of this.
14	A public speaking skillset is also transferable to speaking in front of groups - such as client groups. That is why I have ranked it so high.
15	Note that all are quite important so this is a challenge to prioritize. We have to support all in order to achieve excellence.
16	Can't rank these. Not a good question. It's not meaningful to try to rank these skills. They are all virtually equally important. The responses above are completely arbitrary.
17	1) Without effective business development, there is no firm. 2) Even the best design in the world is still just a piece of paper unless you can convince someone to build it. These are two simple, age-old truths that most architects stumble upon only after graduation, because very few schools ever even touch on these subjects.
18	I personally think public speaking is important, but my firm feels it is less important, so I am answering for how we feel firmwide.
19	I only rate media last because i (sic) am least familiar with the differences/nuance from PR.
20	see final comment

Appendix I
Architect Survey: Question 14 Comments

*** If you answered yes in Question 13, please elaborate (i.e. type of course, required/not required, etc.)**

Comment

1 Skills were part of our studio where we presented our projects to a group and were gradied (sic) and critiqued
2 A public speaking course was required for my B Arch degree.
3 WE WERE TAUGHT HOW TO BE PROFESSIONAL IN OUR DRESS, WRITING, AND SPEAKING TO POTENTIAL CLIENTS WHEN MARKETING OURSELVES AND OUR FIRM.
4 Public Speaking class taught in the Mass Communications department of the university.
5 very very very little taught on this subject which is vitally important; i (sic) did have one course though on contract documents which got into some of this
6 Professiona (sic) Practice but did not concentrate on PR?Marketing and Business Development.
7 Public Speaking
8 writing skills were only empahsized (sic) during a 1 semester expository writing class and public speaking came with presentations of projects. As a general statement I believe the young professionals have a weakness in writing. I wish their writing skills matched their computer skills. That would be terrific.
9 There was a marketing presentation course which was very helpful and influential to understanding the real world of the Architect.
10 Part of Studio with presentational (sic) work
11 primarily presentations of architectural project (sic) to juries
12 Introductory Speech course required.
13 This was very minimal. A basic Communications class was required, and our professional practice classes had small components of this. It often didn't happen, but it was assumed picking up a lot of these skills just because we were giving presentations so often.
14 public speaking - required; photography - communications elective; profession of architecture - required
15 "Architectural Practices"- Required.
16 design studio final project presentations
17 A very limited, one quarter class taught by each of us researching and sharing areas of practice related communications. We needed more.
18 Conflicts with the 2nd question. My undergrad was Economics.
19 1 semester class on basic public speaking and communication.
20 public speaking classes. No marketing or public relations.
21 A class called Professional Practice was a 5th year requirement of the ubdergraduate (sic) program I attended. I also took an Architectural Marketing class as an elective.
22 Electives in Voice and Diction; Public Speaking; marketing; and English Composition were taken throughout my undergraduate education.
23 drawing; graphic communications; model building
24 Design studios require presentation to individuals and groups.
25 There were compulsory public speaking courses as part of the English Department. Largely useless.
26 Let's just say that it was lacking from what I can recollect.
27 I had one Elective class for marketing for two semesters
28 Why do you keep saying undergraduate architecture education. Some of use have an M Arch on top of a liberal arts BA. I took a profession practice elective.
29 Mainly communication skills were taught in Design related Courses. Courses specific to Communication Skills would have been very helpful...
30 I took a "public speaking" course as an undergraduate. It was not required as part of my architectural education but satisfied a general education requirement for my degree. And I thought it would be useful someday.
31 Very minimal public speaking class preparing two 15 minute presentations in front of our classmates
32 We did have a required course on the architural (sic) practice with a primary focus on marketing. We had group projects where we were assigned to assemble a proposal as a firm, give a presentation, etc.
33 Presentation of designs was an integral part of design courses. No separate coure (sic) work.
34 Presentations, juries, business writing
35 had a class in professional practice; elective, not required
36 Undergraduate Professional Practice course. We were taught basic communications and marketing skills.
37 Took a public speaking class in college - it was not a required class or part of the Architecture program.
38 Yes, Regular formal design crits with public speaking.
39 the only item we had exposure to we (sic) some public speaking, we needed to present our projects to our class as well as outside jurors...
40 I had a Professional Practice course. Writing and public speaking skills were taught and evaluated. I also took Public Speaking courses as electives because I think the skill is valuable.
41 My undergraduate degree is in city planning, granted from an architecture school and I as a city planning major I was required to take a public speaking class.
42 Required Construction Documents classes focussed on the communication of ideas and project requirements in the forms of drawing and note-writing.
43 Marketing
44 One semester of Public Speaking; Oe (sic) semester of Public Relations
45 see final comment

Appendix J
Architect Survey: Question 15 Comments

*** Did your architecture education prepare you for the communication aspects of architectural practice? (optional comments).**

	Comment
1	We had to speak as part of the crit process of course, but that is far different than selling a job to a client. But still, being comfortable speaking in front of other is started in school.
2	We had to speak to a jury of visiting architects and end users at our studio class "crits"
3	I GRADUATED FROM OHIO STATE UNIVERSITY IN 1961. I DO NOT BELIEVE OUR SCHOOLS TODAY TEACH THE ETHICAL AND PROFESSIONAL TRAINING THAT WE RECEIVED. WE EVEN WORE TIES [ROOSTERS] TO LABS. PART OF OUR TRAINING INVOLVED RESPECT FOR OUR PROFESSORS AND I DON'T FEEL THAT IS PART OF WHAT THE STUDENTS LEARN TODAY.
4	We students had to sell our projects to the faculty as if they were clients.
5	in general, no, see answer above
6	Having to present and defend your design to outside professionals in a jury setting was daunting but good preparation for brutal client meetings - and in house negotiations.
7	Design studios required the ability to stand and discuss/defend your design. Being critically reviewed left you vulnerable and gave you negative situations to deal with professionally vs emotionally. This also became a part of other classes like professional practice/business course.
8	In hind sight I would say public speaking courses in college would have been very beneficial. Also greater attention to writing skills since writing skills are important in the practice.
9	But it was not comprehensive. As was the case for most, it was primarily focused on the design and associated technical skills of the field, not the process for acquiring business.
10	I had a double major of architecture and political science. This allowed me to greatly expand my education and types of courses.
11	No formal classes however peer presentations and critiques were commonplace.
12	The competitive academic environment too often fails to engender meaningful collaboration.
13	Informally through critiques. Unfortunately, not all students were critiqued at the end of the semester and so missed the experience of explaining and defending their projects. The one thing I though school did well was to separate me from my work so that I could accept criticism of my project as separate from criticism of me. Again, this was not managed in any explicit means and I'm not sure all my classmates or faculty understood this to be the point.
14	In my thesis project, for example, I did not simply draw plans and elevations and build a model. Written and oral descriptions of process, inspiration, resources, material and end product were essential. Much of the time it was communications trial by fire- There's nothing like pressure to teach the importance of preparation.
15	But only the graphic design component of communications, and that was minimal.
16	Only what you learned from comments while doing your crits.
17	Critiques and presenting to the public were part of the education process.
18	The critique process makes you realize the importance of presentation, but no classes were available in public speaking-- and when I asked about taking one elsewhere in the University, I was told it would not be a credit towards my degree.
19	That education was oriented more toward internal communication among architects.
20	Yes and no, my collegiate architectural eductaion gave me a very basic understanding of public speaking by virute of our crits. But, I would say that exposure enough wasnot enough to prepare me for my practice.
21	Only time we had to speak in front of a crowd was when our projects were critiqued.
22	Exclusively through the review process and only for verbal presentation
23	Other than public speaking / presentation at crits.
24	I think not necessarily is the appropriate answer.
25	except for making presentations to design juries, and some feedback related to that experience, there were no direct training activities or classes dealing with communication skills.
26	Had to learn a lot of skills in the course of practice - far too much learning by mistakes...
27	I believe that a benefit of the jury system of architectural critique is that you must communicate ideas to a group of people in a short period of time. You must also listen to the comments and respond appropriately to explain your ideas. There are messages communicated by the jury system that are not a benefit to the student but that is probalby another subject.
28	Added my own curriculum: Business Law, to my studies that involved communication skills.
29	I would have liked to answer more neutrally than yes or no to the above question. My architecture education did prepare me, but not to the extent required; it went maybe half way.
30	Strong emphasis on presentation and communication of design intent. Less emphasis on collaboration skills.
31	Could say yes on a very limited basis in that we had to "present" our projects to our professors - but there was no training on how to do this, we just had to do it.
32	Assuming you are not referring to the presentation aspect (which did of course). I'm assuming you are referring to specific courses.
33	My business communication class was OK but it only taught the basics.
34	Prior undergraduate and graduate school education in other fields prepared me more than architectural education.

Appendix J (continued)
Architect Survey: Question 15 Comments

*** Did your architecture education prepare you for the communication aspects of architectural practice? (optional comments).**

	Comment
35	In architecture school, clients were imaginary. Architecture students are taught to talk about their own perception of their designs. Dealing with real clients, the emphasis needs to be more on what's in it for the client.
36	I believe that it's very difficult to prepare for real world conditions in an academic environment.
37	The education at Undergraduate level was far more important and formative than at the much shorter Graduate level. But most of the experience was learned during IDP.
38	Clear graphic communication of your ideas is crucial. Then getting up in front of a group is equally important. Most schools emphasize this simply by allowing you to practice in front of a group critique. But it is up to the student to seek additional help if he/she lacks the confidence/aptitude for either.
39	The only communication aspect of the undergraduate architecture training is to learn by trial and error during critiques, both during regular studio sessions and at milestone crits with guest critics.
40	The only communication skills that actually are emphasized in the school relate to the presentation of design projects. This often turns into an exercise in architectural jargon, most of which is the actual opposite of good communication. In other words, only an insider has any idea of what is being discussed. This jargon is totally counterproductive in terms of discussing project design with a client.
41	Presentations to faculty and critics were helpful in developing and honing communication skills. For the record, my architecture degree is a graduate (MARCH) degree. My undergrduate degree is a BA in Anthropology, a field in which writing and verbal communication is very important.
42	In fact, just the opposite. The required English & Writing classes were populated only with fellow architecture students, not a mix with the liberal arts or engineering students - and the message was clear: 'This class is a requirement, but I (the professor) know that your most important focus will always be on Studio activities'.
43	Public speaking and graphic design skills - being able to illustrate and then describe a project to a review panel in a clear and concise manner. We weren't taught these skills, we had to learn under fire by trial and error.
44	There were no specific courses, but presenting your design to a jury every term was good training for public presentations and communication. Some professors also critiqued one's presentation style.
45	Every student is required to present and defend each of his/her design projects. Students are taught to graphically represent his/her ideas in ways that are clear first to the observer without any additional commentary from the student. Then those graphic representations must be presented by the student to a jury of faculty and visiting professionals. One's success is directly related to one's ability to communicate his/her ideas to that jury.
46	Jury is the forum where you must present your design. The ability to be clear and to think on your feet is a critical part of the profession.