

**Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study  
of Current Students at a Land-Grant and Regionally-Known University in Western  
Virginia**

Patrick M. Johnson

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Committee

Richard G. Salmon (Co-Chair)

Toni M. Elitharp (Co-Chair)

Jerry A. Niles

John K. Burton

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## **Abstract**

### **Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study of Current Students at a Land-Grant and Regionally-Known University in Western Virginia**

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This paper presents findings from a study designed to identify skills and strategies students with visual impairments have developed to aid their social integration into higher education campus life. Attending college provides numerous learning opportunities outside the classroom. The study explores the process by which students at two universities in the Commonwealth of Virginia were able to identify, navigate, and participate in extra-curricular activities. Previous research by Roy & MacKay (2002) and Hodges & Keller (1999) provides a quantitative framework from which a qualitative tapestry was woven. A secondary purpose of the study was to verify the validity of Roy & MacKay's finding that the age that individuals first experience visual disability and the visibility of their visual impairment (the variance in their ability to appear sighted) are valid predictors of social integration of visually impaired students among college students.

This study is important for several reasons, including, (a) to help develop a more inclusive campus environment, (b) to identify factors that have influenced the selection of post-secondary educational experiences by visually-impaired students, and (c) to give a voice to visually impaired students to help administrators understand their needs and desires (Henderson, 2001).

## DEDICATION

I dedicate this dissertation to my wife and best friend Diane. Without your love, assistance in layout and formatting, and the occasional nudge I would have ended up like so many other promising Ph.D.s, having completed the course work but unable to complete the paper. This dissertation is as much yours as it is mine, and while you may not have wanted to earn a doctorate you most certainly helped me earn mine.

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## **Chapter One**

### **Introduction to the Study**

There appears to be a dearth of research literature on how students with visual-impairments attempt to integrate themselves into higher education campus life. There also is little research regarding factors that have influenced the development of social networks and administrative structures that have been designed to assist visually-impaired students acquire knowledge of campus activities and participate in the higher education experience. Extensive statutory and case law exist concerning how public facilities must be made physically accessible to individuals with disabilities but very little law exists pursuant to social accessibility for higher education for students with visual-impairments.

#### **Statement of the Problem**

The issue of expanding beyond the physical accommodation of disabled students to one that includes a social form of accessibility needs to be researched. The physical accessibility of a higher education facility is only necessary when the students need and/or desire access to that building. However, there are an increasing number of individuals who have visual impairments and attend four-year colleges across the United States. Within the context of this paper several terms are used. Visual-impairment is defined as the partial to complete loss of sight. Blindness is defined as the complete loss of sight. In addition the term legally blind is occasionally used and is “defined as best corrected visual acuity of 20/200 or less in the better eye, or a visual field of 20 degrees or less in the better eye,”(VIST, 2004). A person who is legally blind may have usable vision and function in many circumstances as a non-disabled individual.

### **Students with disabilities attending college.**

Access to college was once reserved for the economic and intellectual elite but has evolved into a rite of passage for most Americans. Today college has become a logical next step after graduation from high school. Many children who are disabled also participate in higher education, and typically, 63% of students with disabilities enroll in postsecondary education within 2 years of high school graduation, compared to 72% of students without disabilities (Horn & Berkold, 1999). The increase of disabled students poses new challenges to both college administrators and instructors. The increased reliance by higher education on web-based instruction tools only adds another layer of complexity for meeting the needs of students with disabilities.

### **Student demographics: a national perspective.**

It is important to understand the issues faced by visually-impaired college students. This population can be researched from a quantitative perspective and will help provide a lens into the visually-impaired student population from which qualitative information can be obtained.

### **High school graduation and college attendance.**

The latest data available on high school graduation of the visually-impaired has been drawn from the 1999-2000 academic year (see Table 1). The U.S. Department of Education (2002) reported that the number of students with disabilities who graduated in 2000 was 162,580. Of this total number, 1,157 were identified as students with visual impairments. The largest number of disabled graduates was identified as learning disabled and formed the majority of total disabled graduates (109,012). The population of learning disabled students also comprised the majority of the dropouts in this group. A total number of dropouts (85,119) were reported and

48,490 were identified as learning disabled. This dropout report indicated that only 187, or 11.9% of dropouts were identified as visually-impaired.

Table 1

Disability Category	Graduates		Dropouts	
	Number	Percentage	Number	Percentage
Specific learning disability	109,012	62.1	48,490	27.6
Speech/language impairment	4,802	66.1	1,787	24.6
Mental retardation	16,425	39.5	10,812	26
Emotional disturbance	14,842	40.1	19,032	51.4
Multiple disabilities	2,676	48	896	16.1
Hearing impairment	2,862	68.4	620	14.8
Orthopedic impairments	2,055	62.5	506	15.4
Other health impairments	7,325	67.7	2,423	22.4
Visual impairments	1,157	73.4	187	11.9
Autism	578	47.3	135	11.1
Deaf-blind	47	48.5	10	10.3
Traumatic brain injury	799	65.3	221	18.1
Sensory-impaired*	4,066	n.a.	817	n.a.
Total	162,580	56.2	85,119	29.4

*1999-2000 Graduation/Dropout Rates For High School Students With Disabilities*

Source: U.S. Department of Education (2002)

\*Category created by adding hearing impairment, visual impairment, and deaf-blind categories.

### **College transition for students with disabilities.**

From 1986 to 1994 the percentage of students with disabilities who attended post-secondary institutions increased from 29% to 45% (Horn & Berkold, 1999).

### **Freshmen with visual impairments transition data.**

Freshmen with visual disabilities at four-year institutions of higher education during the 2000-2001 academic year possessed the following characteristics compared to all disabled freshmen: (a) they were most likely to be 18 or younger (71% vs. 63%), (b) had earned an “A” grade average in high school (43% vs. 30%), and (c) had chosen their college/university because of the financial aid package offered to them (38% vs. 31%) (Henderson, 2001).

The data displayed in Table 2 reflect changes in the type of disability for college freshman from 1988 to 2000. The percentage of students identified as learning disabled increased at an inverse rate relative to visually-impaired students attending college. Since the national data do not provide absolute numbers, it is difficult to determine if there is a proportional increase in numbers of students in each of the categories.

Table 2

#### *Type Of Disability Reported By Full-Time College Freshmen*

DISABILITY	1988	1991	1994	1996	1998	2000
Hearing	11.7	10.5	9.3	8.5	8.5	8.6
Speech	3.6	4.2	3.3	3.2	3.0	2.9
Orthopedic	13.2	12.2	9.7	9.0	8.1	7.1
Learning	16.1	17.6	24.5	28.3	34.3	40.4
Health	15.8	15.4	17.6	17.4	16.4	15.4
Visual	30.0	31.3	27.3	23.7	19.9	16.1
Other (Health)	19.1	18.9	17.7	18.6	17.8	16.9

Source: C. Henderson, (2001), adapted from original

**Major preference.**

The most recent data on curriculum major selected by students who attended four-year institutions are somewhat dated (Table 3). During the 1995-1996 academic year students with sensory disabilities most likely majored in Business/Management programs. Twenty-four percent of hearing-impaired, and 20.4% of blind/visually-impaired students compared to 19.8% of non-disabled students pursued business/management majors. Blind/visually-impaired students were more likely to pursue Education, Computer/Information Technology and Physical Science degrees than their non-disabled counterparts. Mathematics was the least popular curriculum major for blind and visually-impaired students. Hearing-impaired students showed higher than average concentrations in Engineering and Health degrees, while the Physical Sciences recorded the fewest number (Horn & Berkold, 1999).

Table 3

*Major selection by Students with and without Disabilities*

Major	Total	No Disability	Has a disability	Visual	Hearing	Speech	Orthopedic	Learning	Other
Humanities	14.6	14.5	17.6	10.9	11.0	45.2	15.1	21.1	21.6
Social-Behavior Sciences	9.5	9.7	9.4	9.9	5.3	0.0	10.4	11.1	12.7
Life Sciences	5.7	5.7	3.4	4.2	2.5	0.0	4.6	3.0	2.1
Physical Sciences	1.0	1.0	0.6	2.3	0.4	0.0	0.3	0.4	0.3
Math	0.6	0.6	0.2	0.0	0.7	0.0	0.7	0.0	0.1
Computer-information sciences	3.4	3.3	3.9	6.0	3.6	5.9	5.8	2.6	3.3
Engineering	8.1	8.2	9.7	4.1	16.9	6.2	10.8	9.8	9.3
Education	8.5	8.7	8.3	15.6	6.2	11.4	5.9	6.9	8.0
Business management	19.7	19.8	17.4	20.4	24.0	9.3	16.6	13.4	14.7
Health	12.7	12.8	11.4	10.7	13.7	14.0	9.0	9.3	14.3
Vocational-technical	2.7	2.6	3.8	4.3	3.6	1.1	3.6	4.2	2.4
Other technical/professional	13.5	13.3	14.2	11.7	12.2	6.9	17.3	18.1	11.2

Source: L. Horn & J. Berkold (1999), adapted from original

### **Institutional preference.**

An examination of data suggests that students with disabilities are more apt to attend public rather than private institutions. During the 1996-1997 and 1997-1998 academic years, 1,290 out of 2,060 public, and 590 out of 610 private four-year institutions that participated in the PEQIS survey (Postsecondary Education Quick Information System) reported their enrollment of students with disabilities (Lewis & Farris, 1999). Ninety-one public four year institutions had enrolled disabled students, including 85 that enrolled visually-impaired students (Lewis & Farris, 1999). The private four year institutions reported that they enrolled students

with disabilities, including 33 hearing-impaired students and 34 visually-impaired students (Lewis & Farris, 1999).

Nationwide, 7,060 visually-impaired students and 6,040 hearing-impaired students were enrolled in public four-year institutions during the 1996-1997 and 1997-1998 academic years. The numbers were significantly lower for private four-year institutions; 1,910 students with visual impairments and 1,430 hearing-impaired students were enrolled (Lewis & Farris, 1999).

College freshmen with learning disabilities comprised 40% of the disabled first year college student population nationwide. Students with sensory impairments, defined as visual and hearing impaired formed 16% and 8%, respectively, of the 2000-2001 freshmen class who were enrolled at four year institutions (Henderson, 2001).

### **Purpose of the Study**

The primary purpose of the study is to identify factors that create barriers for academic and social success for college students with visual impairments. The secondary purpose is to identify the perceptions that students with visual disabilities form when they select a college campus and their perceptions of their integration into the total campus environment once on campus. The methodology chosen for this study can be defined as mixed. A mixed methodology will allow for use of a qualitative framework based on rich qualitative narratives of campus life provided by selected visually-impaired students. The qualitative data will be used to interpret and frame the responses garnered during their interviews.

The instruments will include a demographics data instrument, extra-curricular participation and their perceptions of how their visual impairment creates barriers. Additionally, two instruments will be used to frame and interpret the participants' interviews. The Twenty Statements Test is designed to gain responses to the question of "Who am I?" by quickly having

the participants list their first 20 responses, as if they answered themselves, and not to others. The instrument has been designed to garner rapid responses to the questions, and provides a rapid succession of self-perceptions. In a study conducted by Roy & MacKay (2002), the instrument designers, interesting themes usually emerge, and the administration of this to persons visually-impaired should reveal the extent that a person's loss of vision has been integrated into their sense of self.

The second quantitative portion of the study consisted of administration of the Locus of Control scale. The Locus of Control scale is a 23 item closed response instrument designed to measure internal and external control. The scale was used to "portray participants beliefs and general expectancy about the nature of the world" (Roy & MacKay, 2002)." The scale does not measure a preference for external versus internal control but rather the participants' attitudes in various situations (Roy & MacKay, 2002).

The qualitative portion of the study parallels the interview process as described in the study conducted by Hodges & Keller (1999). The interviews address the participants' pre-college perceptions, on-campus perceptions, and interpersonal influences. Pre-college perceptions, as defined by Hodges & Keller (1999), include student involvement in high school activities and expectations of success by their parents. On-campus perceptions refer to (a) awareness of on campus activities, (b) upcoming events, and (c) the ability to attend events that occur during times when they are not normally on campus. Interpersonal influences are defined as the ability to socialize with classmates and others on campus that affect perceptions.

In summary, the mixed methodology of the study allows for the fullest perspective of social accessibility by selected visually-impaired students in higher education. Data gathered in the quantitative portion of the study provide an information base for the qualitative portion of the

study in order to gain a multi-faceted view of campus integration by students who are visually-impaired.

### **Research Questions**

The central question posed in this study was: What role does being visually-impaired play when a student selects to attend a college or university. The question was answered from two parallel perspectives. First, the perceptions of college students who were participants of the study; and second through the interpretation of their responses. The first approach permitted participants to answer the questions of their college choices relative to their perceptions from both the “I am here”, and “This is what I am looking for” perspectives. The second approach incorporated use of qualitative and quantitative instruments to frame and develop perspectives from interpretation of the narratives provided by the participants. Building upon this base, this study explored how higher education students who are visually-impaired interact with others, and what support structures they rely or have developed in order to succeed in college. This study examined the perceptions of two graduate students and an upper level undergraduate student.

### **Significance of the Study**

The findings of this study should help college and university administrations gain a better understanding of campus integration for their students with visual disabilities. The information should provide a snapshot, from the perspective of visually-impaired students pursuant to their campus social integration. While the selected number of participants was small and limited to two university campuses, themes emerged that should provide a base for further inquiry regarding inclusive college environment.

Inclusive environments benefit not only students with visual impairments and other disabilities, but all students. The primary goal of inclusive campus environments should be to eliminate the barriers faced by a few while improving the campus environment for all. Sarah Hawthorne, Director of the University of California's campus accessibility project and a former senior attorney for the Office of Civil Rights ("Tackle access by defining problems, looking for logical solutions," 2005) stated that an accessible campus makes good business and marketing sense.

In addition to providing information for college and university administrators, this study should be beneficial to high school guidance counselors who advise prospective college students. Prospective college students will be provided a longitudinal view regarding the evolving needs of college students with visual impairments.

Finally, this research will benefit researchers who study the needs of college students with visual impairments and provide them with a framework for future research projects. The goal of this researcher has been to build on the current research and to set the framework for future research.

### **Limitations**

First, this study only draws participants from two universities within the Commonwealth of Virginia. Financial advantages erected by reduced in-state tuition and geographical proximity have helped attract participants to the universities.

Caution should be exercised in drawing statistically valid conclusions due to the small number of participants. Instead, the study should serve as a potential source for a snapshot of visually-impaired student attitudes toward social accessibility in higher education settings. This study is primarily qualitative and provides a context to interpret the narratives of the participants.

## **Chapter Two**

### **Review of Literature**

The literature selected for this study focuses on the interactions the students with a sensory impairments had with peers and instructors at four-year colleges in traditional. Legal aspects of this issue will first be discussed.

#### **Legal Aspects**

The three key pieces of legislation propelling the increase in post-secondary educational enrollment by students with disabilities are the Americans with Disabilities Act (ADA) (P.L. 101-336, 42 U.S.C. §1261), the Individuals with Disabilities Education Act (IDEA) (20 U.S.C. §1400-1485), and the Rehabilitation Act of 1973 (20 U.S.C. §794 (§504)). These three pieces of legislation form the basis for the significant increase in college enrollment. According to Section 2(b)(1) of the ADA the purpose of the Act is “to provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities”. Similarly, the Individuals with Disabilities Education Act states a similar purpose in Section 601(d)(1) “to ensure that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet the unique needs and prepare them for employment and independent living”. Section 504 of the Rehabilitation Act of 1973 states “no qualified individual with a disability in the United States shall be excluded from, denied the benefits of, or be subjected to discrimination under any program or activity that receives Federal financial assistance (34 C.F.R.104.4).

#### **The application/admissions process.**

Neither Section 504 of the Rehabilitation Act or the Americans with Disabilities Act (ADA) requires an institution to waive essential minimal admissions standards to accommodate

an applicant with a disability. However, the courts have applied disability law to five areas of the admissions process: (a) admissions requirements: (i) minimum grade point average and college preparation course requirements, (ii) academic indices, (iii) minimum work experience requirements, (iv) essential physical abilities; (b) alternative admissions requirements: (i) regular high school diploma or GED; (c) the pre-admissions interview: (i) disability specific questions, (ii) character traits, (iii) disability disclosure, (iv) psychological and physical exam results; (d) “flagging” of standardized test; and (e) the burden of proof for providing timely documentation to admissions professionals (Appendix B). Once the student with a disability has gained admission to college there are additional barriers that must be overcome on the road to completing a post-secondary education.

#### **Facility accessibility issues.**

Section 504 of the Rehabilitation Act and Title II of the ADA provides that no qualified individual with a disability shall: (a) be excluded from participation in, or denied the benefits and services of programs or activities; or (b) otherwise be subjected to discrimination because a university's facilities are inaccessible. The case law as it applies to colleges and universities once the student is on campus has primarily dealt with specific issues of physical accessibility.

The hearings cited below provide a discussion of the physical accessibility issues students have raised while attending college. Several hearings are cited multiple times due to the several issues brought forth in them. The following seven issues have been brought before the Office of Civil Rights: (a) parking lot accessibility, (b) routes on campus, (c) automatic doors, (d) accessible bathrooms, (e) renovations, (f) assistive technology, and (g) emergency preparedness (Appendix B).

The issues cited above reflect the impact that physical accessibility has had in the area of litigation. Only two hearings were cited in the assistive technology section that were associated with either a hearing impaired and visually impaired student seeking accessibility adjustment to gain access to academic information. Clearly the focus of research has been on physical accessibility. Sarah Hawthorne, Director of the University of California's campus accessibility project and a former senior attorney with the Office for Civil Rights has suggested that colleges should consider the design of new campus buildings and accessibility mandated renovations of existing buildings in a holistic context of not only meeting ADA requirements but also as a sales tool to other campus and community constituents. For example, wheelchair accessible bathrooms while required to meet the needs of students in wheelchairs can also be beneficial to elderly alumni. Similarly accessible signage for facilities is beneficial to both visually impaired students and visitors unfamiliar with campus ("Tackle access by defining problems, looking for logical solutions," 2005).

While colleges are not allowed to discriminate against students because of their disabilities, the law clearly states that colleges are allowed to maintain minimum admissions standards for all students and make on campus modifications within reason. Colleges and universities are legally required to: (a) meet accessibility standards for students, (b) be proactive, and (c) work with colleges to meet their student accessibility needs. Disabled students are clearly challenged when they pursue a post-secondary education. The section that follows presents theoretical perspectives associated with the issues faced by higher education students with disabilities as well as alternative approaches to studying issues concerning access to the total college environment.

## **Theoretical Perspectives**

The first issue presented deals with the question of self-perception and how students with disabilities view themselves through the lens of their own disability. The second issue concerns a typology through which information regarding students with disabilities has been researched.

### **Self-perceptions of disabled students.**

According to Kelly, Sedlacek, and Scales (1994) students with physical and learning disabilities do not perceive themselves as different from their non-disabled counterparts. In contrast, Penn and Dudley (1980) noted that college students with disabilities lack self-confidence, which presents a major obstacle to successful completion of college. Similarly, visually impaired students also perceive that their disability adversely affects their path in life (Roy & MacKay, 2002). Dunn (1994) observed some people maintain optimism and contend that their disability has enhanced their lives. A graduate student with a disability indicated, “I think my life without a disability would have been tragically humdrum, middle class, Irish Catholic, and having four kids in Queens, New York” (Onley & Brockelman, 2003, p.41). In some instances, there appears to be an inconsistency between the disabled and non-disabled students as disabled students have described themselves as being in two different boxes (Onley & Brockelman, 2003, p.40).

Goffman, (1963) theorized that individuals with disabilities feel pressure to hide their disabilities from the non-disabled in order to avoid stigma. But the perception of one’s disability is contextual (Onley & Brockelman, 2003, p.42). Clearly there is an appropriate time and a place for people to reveal their disabilities. The question of when to reveal their disabilities is often a most difficult task (Onley & Brockelman, 2003).

It has been suggested that the framework used by people with disabilities participating in certain activities while they attend college needs to be adapted to changing times (Darling, 2003). Darling suggested that earlier models including Goffman's (1963) apologist model do not provide sufficiently broad framework for study of the disability culture. Darling has identified seven typologies: (a) normalization, (b) crusadership, (c) affirmation, (d) situational identification, (e) resignation, (f) apathy, and (g) isolated affirmation. Normalization as defined by Darling is the desire not to appear different from "normal" society. It is within this category that Goffman's "apologist" typology would fit. Crusadership approaches the goal of normalization through the exploration of alternative techniques and technologies. The affirmation typology considers disabilities to be a component of natural diversity, and does not consider integration within mainstream society to be essential. The emphasis in this typology according to Darling is to establish a disability identity. Darling further compared the pursuit of a disability identity to the black pride movement of the 1960s. The affirmation model rejects the need to integrate into society, than with disabilities or the reliance on such devices as Cochlear ear implants and prosthetics, which could convey an appearance of normalization.

Situational identification is a chameleon typology, participating in both mainstream and disability culture. Darling (2003) suggested individuals who use this typology consider their disability as part of their identity, and see any benefits as a part of the disability subculture, as well as the need to obscure that disability when advantageous.

The final three categories, resignation, apathy, and isolated affirmation are likely to contain the fewest members, but are included by Darling (2003) to cover the range of typologies. Resignation is a typology most likely to be associated with the lower-class and poverty areas. Darling suggested that individuals pursue the resignation model when they lack the social-

economic resources to participate actively in the mainstream culture, and are unaware of the disability subculture. Apathy according to Darling is possible in cases where individuals with severe learning disabilities or mental retardation are not going to be aware of societal norms, or the disability subculture. The final group, isolated affirmation, is a group that is unlikely to exist, but theoretically should exist according to Darling. Individuals in this category are going to be isolated from others with disabilities and will have developed their own disability identity through examination of other groups. Darling suggested that members of this group will switch membership once they become aware of the disability subculture.

The typologies suggested by Darling in (2003) present an interesting starting point for a review of literature. Four of the seven typologies, situational identification, normalization, crusadership, and affirmation are most likely to appear on the college campus. Of these four, only normalization is likely to be represented by students who are served by college disability services. The other three typologies resignation, apathy, and isolated affirmation are unlikely to be present at the post-secondary level, and if by chance a student fitting one of these typologies were to attend post-secondary education, they would be unaware of the services offered by disability services.

In their research, Onley and Brockelman (2003) solicited views of students, in narrative form, who possessed hidden disabilities. These narratives in conjunction with the perspectives of non-disabled students provided by Kelly et al. (1994) provide an interesting counterpoint perspective of academic integration among students with sensory-impairments. These two perspectives were gathered through a combination of qualitative and quantitative methods, and a picture of academic integration of students with disabilities is provided.

## **Research Studies Addressing Perceptions**

Studies were located through searches of the ArticlesFirst, Educational Full Text, and PsychInfo databases. Additional resources were located through bibliographic searches. The search parameters included: “college,” “student,” “disability,” “disabled,” “blind,” “impaired,” “challenges,” “success,” and “interaction.” Admittedly, these are broad search parameters, but were chosen to locate as many articles as possible. After the initial search, the search parameters were refined to eliminate articles that focused on non-sensory disabilities, including both “learning” and “emotional.” Articles that focused on students with sensory impairments and such terms as language acquisition were noted for further review and possible utilization. The time period for this search was limited to the period 1990 to 2006.

The studies reviewed focused on disabled students who attended four-year colleges and universities. Two dominant topics, disability as part of self identity, and communication skills, as including classroom interaction, peer to peer dialogue, and student to instructors discourse were studied.

### **Disability and Self-identity**

Disability as part of self identity was a primary focus in the following four studies: (a) Beaty (1994), (b) Blake and Rust (2002), (c) Hodges and Keller (1999), and (d) Roy and MacKay (2002). The purpose of the Beaty (1994) study was to determine to what extent psychosocial adjustment and academic achievement of visually impaired and non-impaired 73 college students from two Midwestern universities were related and to what extent they were significantly different. In a later study, Blake and Rust (2002) investigated the relationship between self-esteem and self-efficacy among 48 Middle Tennessee State University students who possessed physical or learning disabilities. Hodges and Keller (1999) reported that their

research was designed to explore issues of integration among six visually-impaired southwestern college students. Similarly, Roy and MacKay (2002) focused on the role visual impairment plays in the self-identity of 16 Irish and Scottish college students with visual-impairments.

### **Academic Engagement of Blind Students**

#### **Recruitment and selection.**

The 73 students in the Beaty (1994) study included 30 visually-impaired students, divided equally between males and females and 43 non-disabled students including 13 men and 30 women. Application of a Chi-square test found no significant difference between the two groups for the following categories: (a) age, (b) gender, (c) parental education levels, (d) academic class level, (e) field of study, and (f) university affiliation. Beaty did not provide a detailed recruitment methodology stating she sent the material packets in accessible formats to the disabled student services offices at the universities for distribution, and to instructors for distribution to non-disabled students. In both cases the packets were distributed and returned by mail.

#### **Instruments.**

Beaty (1994) used three instruments: (a) The Coopersmith Self-esteem Inventory, (b) The Social Provisions Scale, and (c) The Student Information Questionnaire (SIQ). The Coopersmith Self-esteem Inventory is a 25 item instrument that assesses an individual's self-perceptions of his/her level of self-esteem. The Social Provisions Scale is a 24 item Likert type response format that contains six subscales for such provisions as attachment and social integration. The Student Information Questionnaire requested information on average high school grade level, current college GPA, and major field of study. Two items relating to visual impairment (extent of visual loss and time of loss) were directed specifically to visually impaired subjects (Beaty, p. 134).

Beaty (1994) analyzed the quantitative data pursuant to two conceptual themes, correlation analysis, and tests of group differences. The former analysis included bivariate correlations, Fisher tests of correlational differences, and a multiple regression analysis. The latter analysis included Chi-square tests and a multivariate analysis of variance. Cronbach's alphas were computed for the two standardized instruments; and yielded coefficients of 0.72 for the CSEI and 0.91 for the SPS (Beaty, p. 134). Due to the small sample sizes required for multivariate analyses, probability levels were set at .10 and .05 (Beaty, 1994). The correlation results applied to the total samples indicated no significant relationships existed between esteem and GPA or social provisions and GPA (Beaty, p. 134). For visually-impaired students, however, correlations yielded significant relationships between self-esteem and social provision ( $r = .43, p < .001$ ), but not for self-esteem and GPA. For sighted students, self-esteem and GPA were not significantly correlated; however, social provisions and GPA were moderately inversely correlated,  $r = -.24, p < .10$ . (Beaty, p. 134). The author theorizes these variables function differently for the two groups.

Beaty (1994) used multiple regression analysis to determine whether or not a predictive relationship existed between a set of four predictor variables (self-esteem, social provisions, mean high school grades, and group membership) and the outcome variable of college GPA (Beaty, p. 135). Regression coefficients for the independent variables indicated that only group membership ( $p < .05$ ) and mean high school grades ( $p < .001$ ) contributed significantly to the prediction of GPA (Beaty, 1994)). Non-academic variables did not predict a student's grade point average.

When a multivariate analysis of variance (MANOVA) was performed to ascertain if there was a significant difference in self-esteem, social provisions, mean high school grades, and GPA

for the two groups, the only variable that contributed significantly was GPA ( $p < .05$ ). Beaty noted again that non-academic variables were not significantly different for the two groups.

### **Discussion.**

Beaty (1994) noted that the greatest challenge she faced in her data collection process was in delivering material to students in an accessible format. She said that regular print font was used for the non-disabled students, and 18 point font was used for the visually-impaired students. The blind students received their materials on an audio cassette, primarily due to ease in replication.

### **Examining Self-Efficacy and Self-Esteem**

#### **Recruitment methodology.**

Blake and Rust (2002) investigated the relationship between self-esteem and self-efficacy among college students who had physical and learning disabilities. The 48 participants included 23 females and 25 males and represented 19 separate disabilities. Eight students were visually impaired/blind, and there were no hearing impaired/deaf students. The selected students included 44 undergraduates and 4 graduate students. The undergraduates were comprised of 8 freshmen, 13 sophomores, 10 juniors, and 13 seniors.

Blake & Rust (2002) provided 80 surveys for distribution at the Students with Disabilities Office. Fifty surveys were returned, two were rejected for incomplete answers, resulting in a total usable 48 participants.

#### **Instruments.**

The Blake & Rust (2002) study requested that the participants provide their high school and college grade point averages, and each student was classified as to whether their disability was visible, invisible (visual impairment was considered a visible disability), and social-

economic class. The students were then administered two tests, the Collective Self-esteem scale and the Self-efficacy scale. The former is a six-part Likert scale test with sub-categories disguised to measure membership self-esteem, private self-esteem, public self-esteem, and identity self-esteem. The latter tool is a 23 item (with seven filler questions) survey presented as a five point Likert scale.

### **Results.**

Blake & Rust (2002) compared the means and standard deviations of the raw scores for the Collective Self-esteem and Self-Efficacy scales to a normative sample using one-sample t tests. The authors hypothesized “that college students with disabilities would score lower on the Collective Self-esteem and the General and Social Self-efficacy scales compared to the normative samples.” (Blake & Rust, p. 216) Instead they found that students with disabilities scored higher than the normative sample on the Collective Self-esteem scale  $t(46) = 2.59, p < 0.01$  and the Social Self-efficacy scale,  $t(46) = 3.46, p < 0.01$ . Significant relationships were found between the Collective Self-esteem scales,  $r = 0.47, p < 0.01$ , Collective Self-esteem, Membership Self-esteem, and Private Self-esteem with General and Social Self-efficacy (range of “r” from 0.34 to 0.60) (Blake & Rust, 2002). Additionally a significant relationship between Public Self-esteem and General Self-efficacy was found, but no significant relationship for Social Self-efficacy was concluded (Blake & Rust, p. 216).

Blake & Rust (2002) used several demographics to describe their population, including gender, college classification (e.g., freshman, senior), high school and college grade point averages, socioeconomic status, age of onset of their disabilities, visibility of their disabilities, and severity. Pearson correlations were used to determine the relationship between these demographic variables and self-efficacy and self-esteem, respectively. (p. 217) They found that

social self-efficacy was positively correlated with both visibility of their disabilities and severity ( $r = 0.30$  and  $r=0.33$  respectfully,  $p < 0.05$ )” (Blake & Rust, 2002, p. 217). The authors theorized that an inability to “blend in” with the crowd provided the impetus for some disabled students to face their disability. The authors also found a significant correlation between social self-efficacy and age of onset ( $N=-0.35$ ,  $p < 0.05$ ). The authors suggested the lack of a “pre-disability” identity played a positive effect on the social identity of the students.

### **Discussion.**

Blake and Rust (2002) indicated that two issues have been often overlooked by most researchers: (a) the onset of the disability, and (b) the visibility of the disability. The timing of the onset of the disability plays a potentially critical role in the self-identity formed by the individual. Students who were either born with or had their disability manifest early, incorporated their disabilities directly into their identities. Students whose disability manifested later have been found able to retain before and after disability identities. Blake and Rust theorize that the before and after effect can result in a feeling of loss for some that may hinder their ability to cope by manifesting a yearning of life before occurrence of the disability. The visibility of the disability also may play a key role. Students with a more visible disability are more likely to adapt and incorporate their disability into their identities than students who have hidden disabilities, who may avoid situations where their disabilities are apparent to others. In contrast, Onley (2003) clearly illustrated how a group of students with hidden disabilities have managed to integrate their disabilities and personalities. Both issues (onset of their disability and its visibility) directly address the issue of disability and how it is accommodated individually and projected externally. Darling (2003) developed disability typologies that contained multiple approaches used to establish self-identity.

Blake and Rust (2002) identified several limitations contained within their study: (a) a low number of participants prevented acquisition of a broad profile of disabled students; (b) the usefulness of the normative sample was limited since the participants were not fellow Middle Tennessee State University students; and (c) the wide range of disabilities within the sample may have prevented them from gaining insight regarding a specific disability category, e.g., hidden vs. visible, cognitive vs. sensory, etc.

### **Sense of Identity Among Visually-Impaired College Students**

#### **Recruitment methodology.**

Hodges and Keller (1999) reported research that was designed to explore integration topics among visually-impaired college students who attended a large metropolitan university in the American Southwest. The sample consisted of three men and three women, who were enrolled in economics, rehabilitation, criminal justice, business, special education, and speech pathology. The six students lacked from one to four semesters before graduation. Two students were members of the Golden Key national honor society, and two had received academic scholarships. The selected students represented ninety-seven students (twenty-seven who were visually disabled) provided by the Office of Disability Accommodation. The six participants were full-time undergraduate students (enrolled for a minimum of 12 credits), and had agreed to be interviewed by filing consent forms.

#### **Instruments.**

Hodges and Keller (1999) followed a two-phase data collection approach: (a) ninety-seven students who were receiving services from the Office of Disability Accommodations were administered a membership questionnaire containing questions regarding their level of extracurricular involvement, (b) how their disability affected them, and (c) demographic

information. The instrument was used as a screening tool. Twenty-seven students served by the Office of Disability Accommodations were visually-impaired or blind. Six were selected from the group of 27 and who met the following criteria: were enrolled full time (a minimum of 12 credits) and were classified as upperclassmen. Upperclassmen were chosen for the study because the majority of dropouts had already occurred (Hodges and Keller, 1999).

The second phase consisted of interviews with the six participants and addressed topics concerning pre-college, campus, off-campus, and interpersonal influences. The interviews commenced by asking the participants to select a pseudonym to increase confidentiality, and they were then asked to describe their academic path to this point.

### **Results.**

Hodges & Keller (1999) noted four influences that effected social integration among their participants: (a) background, (b) off-campus, (c) on-campus, and (d) intrapersonal influences.

Hodges & Keller (1999) first focused on the participants' background and assumed that visually-impaired students would conform to earlier research that found high school social integration to be a valid predictor of college social integration. The authors cited Julie who said, "that in high school, she fit in among her small group of close friends, but not into the high school culture" (p. 158). Julie described her lack of a social life as "knowing I was going to commute and then go back home, I wasn't anywhere near close to living on campus; I really wasn't expecting a social life" (p. 158).

Another visually-impaired student indicated that her parents did not attend college and thus did not expect her to stated, "...they didn't expect me to get this far. I don't think that they expected me to get through high school" (Hodges & Keller, p. 158). Kip agreed and described the challenge of accommodating his visual-impairment. Kip said "...he was 40 years old before

he felt confident enough to stop denying that he had a visual impairment and hiding it from his work mates and to pursue his dream of gaining a college education” (p. 158).

Hodges and Keller (1999) cited a study (Astin, 1996) that indicated that off-campus influences reduced the level of on-campus integration of college students. However, Hodges and Keller (1999) noted that each of their participants was active in at least one off-campus activity and none of the participants reported that the activities were a hindrance to their on-campus interactions. Instead, the top complaint among visually-impaired students was their inability to drive which was compounded by the absence of a public transportation system that provided regular evening or weekend service. They found that while the participants had family and friends willing to drive them to campus, the visually-impaired students did not want to become a burden. Two students who were visually-impaired said “it is nice to have a roommate, but you don't want to kill her with take me here, take me there, be my chauffeur” (p. 158). Another said “I don't ask him [husband] to do a lot unless it's absolutely necessary. I look at it this way; you know, it's better for me to try to establish some kind of independence from him on that [transportation]” (Hodge & Keller, p. 158). Students also found the timing of events to be conflicting and frustrating. One visually-impaired student indicated, “I wanted at times to get involved in some of the activities they [university] have, but I just don't have the opportunity” (p. 159).

On-campus influences were described by Hodges and Keller (1999) as the third influence. They identified two components within this theme: (a) lack of awareness of opportunities, and (b) absence of transportation. Participants who spent the most time on campus (several were on campus from 9am-5pm Monday-Friday) indicated that they had a greater opportunity to interact with their peers by participating in activities such as eating lunch together

or hanging out in the student union. However, they were frustrated because many activities on campus occurred after they had spent a full day on campus. Julie stated, "...even though interest may be present, a trip to campus for an event may not be worth it" (p. 159). Another student, Krissa, reported, "I just don't like to go alone. Probably if I had a friend or someone with me, I would do something like that [attend concerts]" (p. 159). One participant, David, who lived within walking distance of campus, often returned to campus for evening activities. He had the ability to "take a break" from campus and return in the evening. Thus, he could participate in evening activities without feeling worn-out from spending an entire day and then evening on campus. Hodges and Keller (1999) noted that while information about campus activities is posted widely (bulletin boards, fliers, sign boards), they are often inaccessible to visually-impaired students, requiring these students to make an extra effort to identify extra-curricular activities.

A third component to the on-campus influence for Hodges and Keller (1999) were the unintended side effects of their vision loss felt by the students. Kip put it this way:

I have had people tell me they thought I was stuck up when they first met me. They would say, I spoke to you before, and you just go by, like I don't exist. Well, that's just because I didn't see them. (p. 159)

The participants said they became closest to those they worked with on a regular basis. Krissa spoke of the bond between majors saying, "...when you are with the same group of people basically all the way through, you really do kind of have a clique" (p. 159).

The fourth influence Hodges and Keller (1999) found was the intrapersonal influence, meaning how well that the visually-impaired students were integrated into the school culture. One student reported that he meshed well because people, both faculty and students, come from

such different backgrounds. He discovered that there were people with purple hair, men dressed as women, and all sort of differences. The authors observed that the key to successful social integration of visually-impaired students was for them to take personal initiatives.

Unfortunately, some participants suffered unreasonable fear, and reported a fear of trying, a fear of people, a fear of failure, and just fear in general. They acknowledged that fear held them back; and commented that, “you really can't be afraid. You need to remember that if you don't try, then what else do you have? What do you have to lose by trying” (p. 159). Many students reported that they are often afraid, but if you can successfully overcome your fear and have fun, then maybe you can do it again. But if you are afraid and do not participate, you will feel isolated.

### **Discussion.**

Hodges and Keller (1999) focused on the adjustments visually-impaired and blind students need to make when they attend college, suggesting that similar adjustments are made by minority students who attend predominately white colleges or universities. They postulate that students who integrate socially and academically are more likely to complete their studies than students who are not integrated. As important as integration is at the collegiate level, the authors also cite research that indicates the social and academic integration of the students prior to college enrollment is equally important, and may well predict the level of college integration. Similar to research findings of Roy and MacKay (2002) Hodges and Keller found that visually-impaired youth scored lower (in this case on scales of social integration) than either blind or sighted peers. Once visually-impaired students were enrolled on-campus factors leading to academic and social integration were identical as sighted students. These factors included: (a) living in a dorm, (b) participating in social and extracurricular activities, and (c) participating in

off-campus activities. As noted above the inability to drive an automobile negatively affects the integration of visually-impaired students.

### **Examining the Effects of Visual Impairment on Self Identity**

#### **Recruitment methodology.**

Roy and MacKay (2002) researched the role visual impairment plays regarding the self-identity of college students with visual-impairments. They selected sixteen participants from students enrolled at Scottish and English colleges and universities and who were registered with the Royal National Institute for the Blind. The participants consisted of 9 women and 7 men and were classified by their responses to the following two questions:

- 1) Did they consider themselves blind, or visually impaired?
- 2) Did they consider their useful vision to have remained stable or to have had a marked decrease?

#### **Instruments.**

Roy & MacKay (2002) used a two-step process to collect information. First, the students were mailed the Twenty Statements Test (TST), and the Locus of Control instrument. Upon completion of the two tests, follow-up face-to-face interviews were scheduled with each participant. The interviews were held in locations chosen by the students. The authors allowed the students to select the interview location, noting that a comfortable environment would be most conducive to open discussion.

The Twenty Statements Test asked the participants to respond to the question, “Who am I?” by instructing them to quickly list 20 responses, and for them to answer to themselves, rather than someone else. The goal was to have the students respond quickly in order to provide a rapid succession of self-perceptions. Roy and MacKay (2002) expected a number of interesting

themes to emerge; and hoped that the instrument might indicate the extent to which a person's loss of vision had been integrated into their sense of self.

The Locus of Control scale is a 23 item closed response instrument designed by Roy & MacKay (2002) to measure internal and external control, and to "portray participants' beliefs and general expectancy about the nature of the world". The scale is not designed to measure a preference for external versus internal control but is intended to solicit from participants their attitudes in various situations (Roy & MacKay, 2002). The authors provided the following sample question, noting that choice "a" is the external control:

- a) No matter how hard you try, some people just don't like you.
- b) People who can't get others to like them don't understand how to get along with others.

Upon completion of the two tests follow up interviews with the participants were conducted. The authors posed this initial question, "Do you feel that your visual impairment has affected who you are?" They then opened the conversation with the participants.

### **Results.**

The first of the two tests that Roy & MacKay (2002) used was the Locus of Control test. The authors found that the externality scores were generally high, and considerably higher than the mean scores of sighted students derived from other studies. They noted the scores "ranged from 6 to 21 (out of a possible total of 23), and yielded a mean score of 14.12 (SD =4.66): 12 = $\bar{X}$  (SD 4.08) for the male students and 15.78 (SD 4.60) for the female students" (Roy & MacKay, p. 259). They also noted that the mean scores were not significantly different between males and females. The authors compared their results with a similar study performed at Ohio State University (the largest sample size with a comparable population), and found the mean

response of the visually impaired students was significantly higher (8.29 versus 14.12, respectively;  $t = 5.837$ ,  $p < .001$ ).

They found that the responses to the Twenty Statements Test were unique for each participant, since they were self-generated (Roy & MacKay, 2002). Scores were obtained from a scale from 1-20 based on the number of positive self-perception responses. They found that, “participants with deteriorating eye conditions responded more negatively through disability self-references than did those with stable eye conditions” (p. 260). Participants who had suffered a recent vision loss tended to provide more negative responses regarding their disability, a finding similar to the Blake and Rust (2002) pre-disability identity results. In response to the follow up question, “Do you feel that your visual impairment has affected who you are?” all sixteen participants agreed that their visual-impairment affected their self identities. One participant stated that “...her visual disability to some extent was who she was.” (p. 259). She viewed her disability similarly to that of being a woman.

Roy & MacKay (2002) used a case-ordered themes-matrix to analyze and portray the data. Thus, they were able to “...score each significant statement made. The initial responses tended to be value neutral, but the ways in which visual impairment had affected who the participants perceived themselves to be could usually be scored positively or negatively.” (Roy & MacKay, p. 261) Additionally, this approach permitted them to score me-centric and other-centric statements. They identified thirty-five themes among the statements made by the participants; of those, twenty-three (66%) were positive. Among the sixteen students, 5 raised only negative themes, 7 raised only positive themes, and 4 had a combination of positive and negative themes.

One student's response illustrated the negative themes, and referred to his vision loss as the creation of many barriers. He also indicated that people create perceptions of you before they know you.

### **Discussion.**

Roy and MacKay (Roy & MacKay, 2002) stated that a main reason for conducting their study was to move beyond the "highly personalized" accounts of vision loss that including grieving and a feeling of loss. They noted that the majority of articles about visual-impairment were written by individuals who were completely blind, and that relatively few articles were written by individuals who possessed some sight.

Roy and MacKay (2002) indicated that visually-impaired students compared to either those who are completely sighted or completely blind, often results in a grey area where individuals can move between the sighted and the blind worlds, depending on the situation. Some have expressed a sense of relief when they become completely blind because they are no longer situated in the no man's land between sight and blindness. The self-perception of individuals is dependent on numerous factors, both internal and external, including initial onset, progression of the vision loss, and/or stability of the individual's vision.

At the onset of progressive vision loss, one of the greatest fears among visually-impaired individuals is difficulty of adaptation to further vision loss, and that the continual adaptation causes increased anxiety. In contrast, they noted that a student who was blind at birth or experienced an early onset of blindness is more likely to successfully incorporate their lack of vision into their self-identity.

The exploration of internal and external factors to self-perception pursuant to the various levels of visual status may be an area for future study. The idea that study of the grey area

between blind and sighted students may offer some insight into other areas of importance. Visually-impaired students who have this hidden disability are able to travel between both the sighted and blind worlds, allowing these individuals to fit nicely into Onley's (2003) "situational specific" typology. But is this necessarily a good thing? In their review of research Roy and MacKay (2002), identified controversy regarding this sense of relief when their vision was completely gone. Why is there a sense of relief? Are the individuals now forced to face the fact that they are blind, and the loss of that last little glimmer of sight means they can finally leave the sighted world? Or does it relate to something bigger? Regardless, Roy and MacKay did not attempt to address this issue. Instead they presented a clean three-step approach for obtaining self-perceptions through the use of a quantitative tool (Locus of Control test), and two qualitative instruments (the Twenty Statements Test, and semi-structured interviews).

### **Group discussion.**

Each of the four studies reviewed used quantitative tools to gather demographic data. Hodges and Keller (1999) and Roy and MacKay (2002) utilized a qualitative tool to add a "face" to the studies. Visually-impaired students formed the population in three of their studies, and a significant percentage of the fourth. Use of qualitative methodology provided an opportunity to compare perceptions of visually-impaired students across the studies with regard to the time of the on-set and the severity of the impairment.

## **Chapter Three**

### **Methodology**

#### **Introduction**

Contained in Chapter Three is a description of the data collection instruments, participant recruitment, data collection, and data analysis procedures used to conduct this study. The chapter concludes with a discussion of the implication of the study and who may benefit from reading it.

Data collection was completed through the use of an initial data collection instrument, the Twenty Statements Test, and semi-structured interviews. Student recruitment occurred in three phases, (a) targeted solicitations at the university and college level, (b) a second round of university wide solicitations, and (c) an expansion of the participant pool to include students attending universities and colleges statewide. Data analysis occurred through the coding of results according to theme. In the final section a discussion of the implication and potential beneficiaries of the study concludes this chapter.

#### **Purpose of the Study**

The purpose of this study is to build onto the research done by Hodges & Keller (1999) and Roy & MacKay (2002) exploring how visually-impaired students at the college and university level incorporate their disability in their on campus interactions. This study addressed campus access for visually-impaired students in order to determine the role it played in the selection of a college or university to attend.

#### **Research Questions**

The central research questions in this study are: (a) How do visually-impaired college or university students accommodate their disability into their social interactions? and (b) How does

access affect the selection of a college or university by visually-impaired students? The research questions were addressed from parallel approaches. The first approach gained the perceptions of college students chosen as participants of the study. The participants were asked questions of college selection in relation to both “I am here” and “This is what I am looking for” perceptions (Hodge & Keller, 1999). The participants were then asked questions concerning how they socially interact with their campus environments and what support structures they possess or have developed in order to succeed in college.

A qualitative approach was chosen to bring out student experiences in a flowing narrative. The qualitative tools were augmented with a quantitative instrument to collect basic demographic information.

### **The Type of Research Design**

A qualitative approach was chosen to bring out student experiences in a flowing narrative. The qualitative tools were augmented with a quantitative tool to collect basic demographic information.

### **Qualitative tools.**

This study was patterned after the interview process described in the study conducted by Hodges & Keller (1999). The interviews will cover the topics of pre-college perception, on-campus perception, and interpersonal influences. Pre-college perception as defined by Hodges & Keller included the following: (a) their involvement in high school activities, (b) expectations of success by their parents, (c) on-campus topic references to their awareness of on-campus activities, (d) upcoming events and the ability to attend events that occur during a time when they are not normally on campus, and (e) interpersonal influences as the ability to socialize with classmates and others on campus that effect perception.

The Twenty Statements Test used by Roy & MacKay (2002), as a quantitative instrument was used in a qualitative fashion in this study. The Twenty Statements Test asks participants to respond to the question of “Who am I?” by quickly listing their initial 20 responses. The purpose of the Roy & MacKay instrument was to garner rapid responses to the selected questions, thus providing a rapid succession of self-perceptions. The expectation of the study was to identify a number of themes. The identified themes determine the extent that their loss of vision had been integrated into their sense of self.

### **Quantitative tools.**

As discussed in Chapter Two an initial data collection instrument similar to the one used by Beaty (1994) and Hodges & Keller (1999) was used to obtain demographic information.

The goal of the study is to garner student perspectives on their campus involvement, both positive and negative. The study will involve students from two universities to determine if their choice of location and college campus was influenced by their visual impairment. The participants for this study come from three distinct majors and are at three different stages of vision loss. One is completely blind, one is at the very earliest stages of vision loss, and the third has moderately impaired vision. Collecting insight from students at various stages of degree completion and majors may help determine if certain stages influence perceptions of students with visual disabilities during their attendance at the college and university.

This study will help determine the reasons individuals with a visual impairment select a college or university to attend. Specifically, the study reports what attracted the study participants to their college or university. The study described the campus, services offered, and major areas of study available.

## **Selection of Participants**

Described in the following section are the procedures used to select participants for the study. The procedures were completed in three phases: (a) communication through the disability services offices at Virginia Tech and Radford University, (b) cooperation sought from the individual Colleges and/or Schools within Virginia Tech and Radford University, and (c) recruitment of students from colleges and universities state wide.

### **Recruitment.**

Approval for this study was granted in November 2008 as study number 08-706 (see appendix M). Due to up-coming holiday season and closure of higher education for much of November and December recruitment and selection of participants was delayed until the commencement of Spring semester 2009.

Pursuant to the study protocol described ten copies of the recruitment packet, consisting of appendices E: Study Introduction Letter; F: Data Collection Sheet; G: Informed Consent letter; and a self addressed stamped envelope were delivered to the Disability Services Office at Virginia Tech and Radford University. A letter of introduction accompanied the packages which reminded the Directors of earlier communication and asked each to help assist identification and selection of participants. The texts of the Virginia Tech and Radford University requests for participation are available in appendix C and appendix D, respectively.

### ***Virginia Tech.***

Only five (5) visually impaired students were registered with the disability services office at Virginia Tech for the Spring 2009 semester. The challenge of soliciting participation from such a small population suggests a need to saturate the campus with ancillary announcements in order to identify, recruit and select additional participants.

First, an announcement seeking participants was posted on the Virginia Tech News site (see appendix N for text) for six weeks between February 9<sup>th</sup> and March 16<sup>th</sup>, 2009. However, notification was received that further posting of the announcement could not continue because Institutional Review Board (IRB) had not approved such advertisement. Subsequently, an IRB amendment was submitted and approved by IRB, and advertisement was resumed. See appendices L, O, and P.

A similar announcement requesting participants was published in the Graduate Life Center's Weekly News and Events from February 9<sup>th</sup> to March 1<sup>st</sup>, 2009. Mailings were sent to all registered graduate students weekly, i.e. Mondays, and listed under Opportunities and Services for Graduate Students.

*College, school, and department level recruitment.*

College and School level recruitment was accomplished by postings to internal mailing lists. (See Appendix Q) Students in the Colleges of Education, Architecture, Liberal Arts & Human Services, and Science received the call as a single item e-mail. The call for participation appeared as the 7<sup>th</sup> of 8 items in a weekly newsletter for students in the College of Agriculture & Life Sciences.

The School of Public & International Affairs advised the researcher that their graduate students had received the call for participation, but declined to provide a copy of the posted message.

The College of Business and the University Studies/Academic Advising Center stated they would spread word of the study through their Academic Advisors. The College of Engineering advised as a rule calls for participation are not shared with their students.

The College of Natural Resources, and Schools of Visual Arts, and Performing Arts & Cinema did not acknowledge receipt of the researcher's request to send the call for participation to departmental lists.

The Virginia Maryland College of Veterinary Medicine and the Joint Engineering programs were not solicited to post the call for participation.

***Radford University.***

The Deans at Radford University as a whole did not acknowledge receipt of the call for participation. See appendix R for a sample of the call for participation. The researcher suspects the Deans at Radford University would have been more receptive if the researcher had provided them with some background and explanation of why the study was important prior to the beginning of the semester and then followed up with them during the semester.

***Second round of recruiting.***

Two students, both enrolled at Virginia Tech, agreed to participate in the study. Due to the limited number of participants an additional effort was made to identify and recruit potential participants. The second attempt to gain additional participants was made through the Disability Services Offices of the two universities. Contained in Appendix S is the text of the advertisement used by the two disability services offices. An IRB amendment (see appendix T) was filed and approved (see appendix U). A modified version of the advertisement also appeared in the Graduate Life Center announcements in the April 13<sup>th</sup> – May 3<sup>rd</sup>, 2009 editions. The announcement also appeared in the April 14<sup>th</sup> - May 5<sup>th</sup>, 2009 editions of the Graduate Student Assembly newsletters. Unfortunately, additional participants were not identified.

### ***Expansion of the study pool.***

The inability to recruit additional participants at either Virginia Tech or Radford University led to the expansion of the participant population. Contained in Appendix V is an in-depth discussion of several options and why each was rejected in favor of expanding the population to include visually-impaired students attending any four-year college or university in Virginia.

An IRB amendment requesting expansion of participant pool was filed to include students with visual-impairments attending any four-year college or university in Virginia (see appendix W). A more detailed explanation of the study was requested by the IRB committee resulting in the resubmission of the original request with requested amendments for expedited IRB approval (see appendix X). Approval was quickly granted by the IRB (see appendix Y).

New advertisements for participation (see appendix Z) were written, and the student questionnaires were reworked (see appendix AA) and the informed consent letter (appendix G) was unchanged. Participants were again given the option of being interviewed by telephone or in person. Students who desired to be interviewed by telephone were asked to fax their signed informed consent forms prior to their scheduled interviews. Students who chose to be interviewed in person were given the option to either fax or hand carry the informed consent letter at the time of their interview.

### **Assurances of Confidentiality**

Participants selected a pseudonym on their data sheet prior to their interviews. During the interviews and subsequent interaction with participants their selected pseudonyms were used. In accordance with NIH and IRB guidelines, the collection of data sheets are being kept in a

locked file cabinet. Upon completion of the study all data will be maintained in accordance with Virginia Tech research policies for a period of not less than three years.

### **Issues of Compensation and Ethics**

Other than snacks provided during the interview process, participants were not compensated. No financial compensation was offered to ensure that students participated in the study as voluntary participants without monetary inducement.

Research ethics were adhered and application of the procedures of Hodges & Keller (1999) were followed. Each participant received a transcript of their interview responses. Both electronic versions and hard copies of their transcripts were offered in order to allow the participants to review and provide clarification. Participants were granted permission to remove or alter their statements.

Special education researchers must consider additional ethical issues in their research beyond mere informed consent (Rumrill Jr., 2001) and should not employ procedures that may adversely effect participants. As explained earlier, participants were able to withdraw at anytime during conduct of the study.

### **Data Analysis**

With a participant pool of three there was no need to utilize software to analyze the results. Responses to the Twenty Statements Test were manually coded into the following themes. First responses were sorted into positive and negative themes as accomplished by Roy & MacKay (2002) and then organized into thematic units. The thematic units represented variables in the following: (1) information pertaining to person; (2) information pertaining to environment; (3) information pertaining to personal interactions; and (4) information pertaining

to level of disability. The interviews were organized and coded according to the themes that emerged.

### **Conclusion/Implication**

This study was based upon previous research (Beaty, 1994; Blake & Rust, 2002; Hodges & Keller, 1999; Roy & MacKay, 2002) who explored issues of campus integration. The methodology developed by Hodges & Keller and Roy & MacKay was used to examine how students at two universities in Virginia perceived their level of inclusion into campus life.

The inclusion of students at three different stages of vision loss will allow the research to examine the questions of campus integration from a stair step of vision loss approach starting with a student who is in the early stages of vision loss, to a student who has completely lost her vision and has had years to reflect on her evolving campus experience. This approach will allow the researcher to examine which needs/expectations remain constant throughout a student's time on campus as well as which needs emerge during their time on campus.

While the sample size is small and no statistical implications were drawn this small sample will allow for an in-depth analysis of the students' perspective. It is from the knowledge gathered from the student interviews that the nature of campus integration will emerge. A small number of students on a shared campus will yield greater depth to the issues of campus integration than a larger statistical sample across multiple campuses.

It is the nature of the semi-structured interview that will allow the researcher to follow up and probe emerging themes and to explore the reasons behind why some events, objects, or means are viewed more positively than others. Having students with a range of visual impairments will allow the researcher to explore if certain themes remain constant across the sample or if there are certain themes specific to specific participants within the sample.

The findings of the study may prove beneficial to college and university administrators by providing a snapshot of campus integration of students with visual-impairments from the student's perspective. Although the sample was small and information gained from three students, themes emerged that highlight both strong points and weak points in campus interaction. By noting what works and does not work, administrators will be able to develop a more inclusive campus environment.

A more inclusive environment will benefit not only students with visual impairments, but also students with other disabilities as well as the non-disabled student body as a whole. The goal of an inclusive campus environment should be to eliminate the barriers faced by some while improving the campus environment for all. Sarah Hawthorne, Director of the University of California's campus accessibility project and a former senior attorney with the Office for Civil Rights ("Tackle access by defining problems, looking for logical solutions," 2005) noted, "an accessible campus makes good business and marketing sense."

In addition to college and university administrators this research will be beneficial to high school guidance counselors as they advise prospective college students on pursuing post-secondary education. By utilizing students at varying stages of vision loss this research may provide a snap shot on the evolving needs of college students with visual impairments. With this perspective potential college students will see how the needs of current college students has remained the same and in some ways evolved throughout their vision loss on campus. Finally this research may benefit researchers exploring the needs of college students with visual impairments. While enhancing the awareness the findings of this study may also present a starting point for future research projects. The goal of this researcher has been to build upon the current research and to set the framework for future research.

## **Chapter Four**

### **Findings**

#### **Introduction**

The following chapter has three main sections: data collection procedures; case studies; and application of research. Contained within the data collection procedures section is the pre-interview, and interview day procedures used for collecting data, administering quantitative instruments, and conducting of the interview. Discussed in the case studies section are the results of the data collection instruments which are synthesized to present the participant's perspectives on what is needed to successfully integrate into the social side of campus life. Concluded in this section is a recap of common themes. Reflected in the final section is how the results of this study can be applied to assist visually-impaired college students to successfully integrate socially into higher education.

#### **Data Collection Procedures**

The following section describes the process used to collect participants' demographic data, obtain their informed consent, and administer the quantitative and qualitative instruments.

##### **Pre interview collection: local campus.**

Visually-impaired students who attended Radford University and Virginia Tech were solicited through one of two methods to indicate their interest in participating in the study. First, they could retrieve a recruitment packet (appendices C, D, E, F, and G) from their respective university disability services office, or secondly, they could respond by e-mail. Students who expressed interest via e-mail received a prompt thank-you note and an attached Word document consisting of appendices E (study introduction), F (student information questionnaire), and G

(informed consent letter). Upon return of appendix F the documents were reviewed to verify their study eligibility and then the student was contacted to schedule an interview.

**Pre interview collection: off campus.**

Students who responded to my request for participation were thanked and sent a Word document attachment consisting of appendices AA (off campus student information questionnaire), and G (informed consent letter). Upon return of the two documents either by fax or e-mail, and a review of the appendix AA to verify study eligibility the study participant was contacted to schedule an interview.

**Interview day collection: local campus.**

At the beginning of the interview sessions the study participants were given an oral overview of the study, its goals, expectations, and why I thought it was important. I asked the participant if my wife (who assists me with technology and has completed the Virginia Tech IRB training as well) could attend the interviews. The informed consent letter (appendix G) was reviewed and asked if they had any questions. Their questions, if any, were answered and again asked if they would participate.

Study participants were then administered the Twenty Statements Test (see appendix H) and the Locus of Control survey (see appendix I). As noted in chapters two and three the Twenty Statements Test requests that the participants respond to the question, “Who am I?” by quickly listing their first 20 responses. The purpose of the instrument is to garner rapid responses to the question, thus providing a rapid succession of self-perceptions. In the study conducted by Roy & MacKay (2002) the expectation is that a number of interesting themes would emerge, and from this an indication of the extent to which a person’s loss of vision had been integrated into their sense of self.

The Locus of Control scale is a 23 item closed response instrument designed to measure internal and external control. The scale is intended to provide a profile that, “portrays participants beliefs and general expectancy about the nature of the world” (Roy & MacKay, 2002). The scale does not measure a preference for external versus internal control but focuses on the participants attitudes in various situations (Roy & MacKay, 2002). The Rotter (1960) version of the Locus of Control test was used due to its “high validity, internal consistency, and test-retest reliability” (Roy & MacKay, p. 248).

Study participants were given the option of completing the two instruments on a laptop computer that has a program which converts text to speech or on paper. Prior to the administration of each instrument I provided its description, procedures for completing each instrument, and provided study participants an opportunity to ask questions. The Locus of Control was provided in both 12 point regular and in **18 point bold font**. After they completed both instruments, the participants were asked if they had any questions about either instrument and if they were ready to continue the interview. Following their verbal consent in addition to the previously collected written consent the formal interviews were conducted, including taped recordings. The interview questions (see appendix J) were administered, and the participants were permitted to control the extent they responded to each question. Interruptions occurred periodically in order to redirect the conversation it was judged to have deviated from the structured topics.

#### **Interview day collection: off campus.**

Off campus and on-campus interview sessions preceded similarly. Prior to the interview sessions, participants were given an oral overview of the study, its goals, expectations, and its potential importance. Participants were given the option of either returning their informed

consent forms by fax or by hand delivery prior to their actual interview. The participants were then asked if they had any questions about the study, including the procedures used during the interview. The in-person interview participants were then administered the Twenty Statements Test and Locus of Control instruments.

Both in-person and phone-based interview study participants were asked if they had questions after completion of the two instruments and if they were ready to proceed with the interview. After verbal consent was obtained the tape recorder was activated. Identical questions pursuant to the interview protocol (see appendix BB) were presented to the participants.

#### **Review, rephrase and editing of responses.**

Following completion of the interviews the recordings were delivered to BTS Transcription for entry into Microsoft Word. The interview transcripts and the responses to the Twenty Statements Test and the Locus of Control Test were then returned via email to the participants for their review. Participants were asked to rephrase, edit, or delete any of their responses. Assurances were made that additional editing may occur in order to maintain confidentiality. Participants were also reminded they had the option to withdraw from the study which would result in the immediate destruction of all documents relating to their contribution.

#### **Case Studies**

This section starts off with a recap of the three instruments used during the interviews, followed by case studies of each participant. Within each case study the four data collection instruments: initial student questionnaire; Twenty Statements Test; Locus of Control Test; and interviews are synthesized to present each participants perspective on what it takes to

successfully integrate into the social side of campus life. The section concludes with a recap of common themes.

### **Interview Day Instruments**

#### **The Twenty Statements Test.**

The Twenty Statements Test were sorted into positive and negative themes (see appendix CC for table of themes) in accordance with the methodology used by Roy & MacKay (2002). Subsequently, the thematic units were sorted separately in the following variables: (a) individual, (b) environment, (c) interactions, and (d) level of visual impairment (see appendix DD for table of results).

#### **Locus of Control Instrument.**

Statistically, valid results are impossible to draw from the small study population. However, Roy & MacKay (2002) suggested that despite the liability created by use of a small population certain relationships can be identified. They noted a strong relationship between a preference for internal versus external control and an integration of one's visual disability into personal identity. This suggests that if one of the three participants is evaluated to have strong internal versus external control he should also exhibit positive integration of his visual disability as measured by the Twenty Statements Test and the interview.

#### **The interviews.**

As discussed in Chapter Three, interviews were composed of three main sections: (a) Event Identification, (b) Mobility and Vision, and (c) Campus Impressions. The three sections provide a framework necessary to weave the oral responses from the participants with the results of the Twenty Statements Test and data derived from the initial questionnaire and the Locus of Control Instrument.

## **Ann Case Study**

### **Introduction.**

Ann is a graduate student enrolled in the College of Public Affairs at George Mason University pursuing a Masters Degree who described her visual impairment both stable and severe. Her visual disability has been diagnosed as Retinopathy of Prematurely. As an undergraduate she was involved in numerous organizations including a sorority and honor societies. She has lived in dormitories, sororities and private apartments, and the number of roommates has varied from one to three. Ann is married and lives in an apartment with her husband and guide dog.

From the Twenty Statements Test she selected the following as her top five responses: I am one who tries to learn from my mistakes; I am a procrastinator; I am detail-oriented; I am trying to figure out the next step in my career; I am inquisitive.

### **Event identification and awareness.**

Ann indicated that she learns about campus activities by asking friends through e-mail. As an undergraduate student, she found that the beginning of the school year activities fair “was an excellent resource for meeting representatives of campus groups who explained the purpose and respective activities of their groups.

Now that she has become a graduate student, Ann indicated that she learns of campus activities through departmental mail lists and occasionally through the Disability Services Office internal list. Since she has a full-time job and attends school full-time, she noted that there was rarely time available to attend such activities.

Neither the campus nor other local radio stations and newspapers play a role in her selection of social activities, and she said, “At this point, primarily, the activities that I do participate are usually learned from one of my colleagues or Facebook.”

As an undergraduate Ann attended DePaul University in Chicago and learned of student activities and organizations through word of mouth, noting that the small size of the university and her network of friends informed her about campus groups and activities. “As a graduate student, again, I am not involved in student associations. There is a graduate organization that I am loosely associated with, but that is primarily because of one of my cohorts that I am friends with on Facebook.” She continued, “...again, the majority of the activities that I get invited to as a graduate student come from Facebook.”

#### **Role of vision.**

As an undergraduate Ann said she expected college would be a lot like home where people would tell her about events and then describe the events to her. She said her grades suffered, “...and the social activities that I would go to were not really geared to my interests, it was just kind of some nice person that may have told me what was going on.” After becoming acquainted with campus she indicated that she was able “...make some friends, it made it a lot easier for me to integrate because, again, you find things that appeal to your interests and friends that have similar interests and that is how you learn about activities. So, it took some time. I finally got to the point where I felt like my lack of vision really did not hinder my social life, but it did take a little bit of time.”

When she was asked which tools and techniques she felt most helped her integrate into campus life she said, “I think the biggest one is the internet and that is a huge one. If you have the technology savvy and I think it is important for any college student who has a disability to

really be fully aware of the computer. I spent some time on there looking on the university's web sites and kind of seeing what kind of activities were going on, and it is a way to get acclimated with the types of things that go on." She suggested that it was important to feel comfortable asking people what was going on, and "...as you make friends and find new people whose interests are similar to yours, it is a lot easier to get acclimated and find things that interest you."

Ann said that the three key factors she utilized to determine whether to attend an event were: (a) is it interesting, and (b) does she have time. She also said that location plays a role, but event interest is first and foremost noting, "I say okay, does this sound interesting to me and if it does, then I might as well give it a whirl, what is it going to hurt?" She returned to the conversation concerning the location of the event and said, "I start thinking about, okay, is it somewhere I can get to easily, or is it at 9 O'clock at night, and do I have to walk around in the dark to find the building. I mean, there are some external environmental factors that you might consider when you are going to an event." She continued "...that being said, I do not want to make it sound either that like people are not being inclusive when they put on an event at a certain time or in a certain building. I mean, there is no way for people to know always how easy it is for everyone, you know how easy a given building or room is to access by a person with a disability, because this could be coming from anywhere on campus."

She responded to the question regarding what posed as her greatest hurdle, "I think time is one, especially as a graduate student. Time is precious. I think another hurdle to campus participation, again, is the lack of information in an accessible format in a medium that everyone can access. Okay, you have stuff on bulletin boards in your residence halls, and ...on the sidewalks, and on the walls in various administration buildings and that is not going to be

accessible by someone who is visually impaired. I think that poses a huge factor. ... I know a lot of people with visual impairments who do not like large crowds, so it depends on the type of event. Like, I know my fear of the city as an undergraduate had to do with these humongous social events and they were in crowds of hundreds of people and when you really have to get up some gumption to want to go to one of those by yourself.”

### **Campus impressions.**

On the question of campus accessibility for a student with a visual impairment Ann said, “I have not found any huge barriers for accessibility in terms of different campuses, graduate or undergraduate. Wow, that is kind of a hard question. ... any of the campuses I have attended could be a little bit challenging. I know that, for instance, where I go for my master’s, the building is a former department store, and has been converted into an academic building. So, it is a little bizarre in terms of its lay-out. There are escalators in the middle of the building. There are strange elements there that could get a little bit goofy. I do not think there were any extremes. I really do not recall any extreme barriers on either of my campuses, undergraduate or graduate. You know, the one thing that I have learned over the years is that you just cannot be afraid of asking for help. If you are looking for a room, ask for it. If you are trying to get somewhere, ask someone. You waste a lot more time if you do not ask.”

Ann reflected further and found her urban campus with the rumple strips cut in the wheelchair curb cuts and the accessible bird call pedestrian crossing both appealing. She says it is laid out in a grid and logical, unlike her undergraduate university which she describes as, “...a little bit more rural, so the campus was a little more confusing because it was very pretty and there were all these little sidewalks going here, there, and yonder.”

Ann expressed concern, "...from a social standpoint, would be just that, that it is a more urban campus and I guess, where I go to school is considered a commuter campus, so I would think it would be more difficult to find student activities in a rural one. That might be a bias or some type of stereotype that I hold, but I almost think that it might be a little more difficult to get involved in a campus where there was so much going on outside of it."

When asked to respond to the question of physical barriers to fuller campus participation, Ann did not provide additional examples drawn from her campus, but mentioned several points of possible concern to students in general including the accessibility of the buildings where events are held, frequency and routes of campus and community buses, and the layout of campus sidewalks, particularly the directness of the sidewalks between buildings. She indicated that the biggest issue was the initial learning of upcoming events, "...it would be where they [the events] are posted, where they are announced and how they are announced, and whether or not they are announced at all."

In regard to her own application process to undergraduate schools, Ann said, "I was applying to a specific program at the university that I attended. So, I think the size. In terms of size, I was looking for a little bit smaller. I was looking for a campus that did not overwhelm me when I walked across it. You know, when you are just coming out of high school and you navigate your high school, it is a lot different than going to a campus with 2000 people and trying to get around. So, I think the size of the campus was a big one. The number of students [who] were going to the specific program that I was applying to was another big factor. The people were a big factor, you know who you talk to and when they talk about kinds of activities that undergraduates are involved in and are doing, you know talking about their fellow students. They are the only things that I can think of that at this point."

Ann said that when she applied to her current graduate program, the search was equally as narrow because of her interest in a specific topic. She said, "...as a master's student, I was looking initially at MBA programs and I found this particular program at George Mason that is not an MBA, but something different, and I was immediately drawn to it." She also noted the program appealed to her since the campus is only eight blocks from her home. She said she considered George Washington University, "...but finances were the biggest issues. George Washington is three times the price, but I really liked...[the] urban campus. It is very easy to get around." As for Georgetown University, she said, "I guess, I would not have considered [Georgetown] because of transit issues; getting there and getting home would have been difficult." She also noted a key factor in her selection of a graduate program was being married to a spouse who had found a job he enjoyed. She noted, "...when you are a graduate student and ... working full time and ... married, you do not really have the flexibility to fly all over the country and look for a master's program."

## **David Case Study**

### **Introduction.**

David is a graduate student in the College of Education at Virginia Tech who described his visual impairment as minor and stable. He chose not to disclose the name of his visual disability. He resides off campus in a single occupancy apartment and is a member of several student governance organizations.

David responded to the Twenty Statements Instrument as follows: I am a Master's student at Virginia Tech; I am a former undergraduate student at Virginia Tech; I want to earn a PhD at Virginia Tech; I would like to have a GTA, GRA, or Fellowship appointment next fall; I want to be a BOV Graduate Rep at Virginia Tech in the future, as his top five responses.

### **Event identification and awareness.**

David said that he learns about most campus activities through, "...emails and sometimes postings on billboards." He regularly reads the campus newspaper, the Collegiate Times, "...in hard copy. Sometimes, I will read the website articles, but usually it is the hard copy I read." Occasionally, he said he listens to the campus radio station, "...usually at night...late night."

He indicated that he has subscribed to "the typical grad student news" lists, including the Graduate Student Assembly and the Commission on Student Affairs, organizations he is a member. He says that the lists are published weekly, which allows him to plan for the coming week and decide the events he will attend. The Roanoke Times and local radio stations are not part of his daily routine. When he does listen to the radio, he prefers XM (satellite radio) and only reads the newspaper when he visits his family.

He said that most of his major courses are conducted online which permits him, "...to be proactive with student activities. It is a great way to network. It is a great way to meet other people that are Ph.D. and master's students. So, it was really a desire for me to be a proactive graduate student, [and] meet professors and other graduate students."

### **Role of vision.**

David indicated on his initial questionnaire that his vision was stable and he only had a minor visual impairment. Until recently he did not think his vision was too bad but when he viewed a movie recently, "...I had a hard time reading some of the words that were on the screen." He does not consider his impaired vision to interfere with his ability to participate in campus activities. He noted, "...luckily because I live so close to campus ...I am able to walk everywhere, which I really enjoy. Campus parking is just crazy." He continued, "I would not say I am afraid to drive, but I have had some accidents that were not my fault, that people hit me,

and I am definitely more apprehensive in driving than I used to be.” He noted he chose his apartment, in part, due to its proximity to campus.

When attending campus events he said, “...typically, I am the one that is there by myself and, at times, that I am apprehensive, but then if I get to the party or the event and see my friends,...I feel a little bit better.” He indicated that his biggest barrier to fuller campus participation is a lack of time.

### **Campus impressions.**

When asked about the physical accessibility on-campus, he noted a lack of headsets in the computer laboratory. He noted the use of Braille signs on campus, but was not aware of campus maps in Braille or how a blind student would navigate through buildings such as the library. He said the wide dispersion of buildings appealed to him because, “I like to see the green space and the trees and the beautiful campus environment,” but he was concerned that courses are held in multiple buildings across campus and it can be hard to get to them on time. He reiterated his earlier point that the lack of sufficient parking was the biggest barrier to campus participation, and that is why he chose to live close to campus. He said campus location did not play a role in his campus engagement, he said living close to campus played much more of a role, as he put it “if I lived in Christiansburg, Radford, or outlying areas, it would be much harder to attend campus activities because logistically, you would be driving a lot.” He reflected on why he applied for undergraduate school at Virginia Tech and said that one of his parents was a student athlete here. He continued, “I looked at James Madison University. I looked at Radford, Virginia Commonwealth University and Virginia Tech. I received an early admission at Virginia Tech and, luckily, it was my first choice...” He did not discuss his graduate school decision process.

## **Emily Case Study**

### **Introduction.**

Emily is a senior in the College of Science at Virginia Tech who described her visual impairment as minor but getting progressively worse. She described her visual impairment as a result of oculocutaneous albinism. She lives off-campus in an apartment with one (1) roommate and said that she isn't involved in any campus or community activities this year, preferring to focus on the completion of her senior year and graduation.

She responded to the Twenty Statements as follows: I am Thankful for what God gave me; I am caring and faithful; I am a child at heart, but mature for my age; I am always doing my own thing; and I am a granddaughter, a daughter and a sister.

### **Event identification and awareness.**

Emily said that she primarily uses the Virginia Tech news site as her source for locating extra-curricular activities to attend. She also skims the headlines of the campus newspaper, the Collegiate Times, and if an article appears interesting she will read it more thoroughly, but it is difficult for her to read the entire article.

Emily has limited her mailing lists to those specific to her college and her major department. Although she regularly reviews upcoming events she almost never attends any of them. She indicated that she did not regularly read the Roanoke Times she does listen to the local stations on the radio, but did not provide their call signs.

This year she has focused on the completion of her senior year and graduation. In prior years she was active in the Snowboarding Club and the Council of International Students.

### **Role of vision.**

Emily described how her impaired vision affected campus integration, “It has [affected] my life because I feel kind of different. I have always been made fun of, so I kind of was also independent.” She continued “I obviously cannot play racquetball because I cannot see the ball, and [there are] other things that I would probably like to do. I do not know, maybe I feel self-conscious about going.” Because of her need to sit in front of the classroom she perceived that it limits her relationships with friends because they don’t want to sit so close to the front. She said, “I am just really independent. I cannot really depend on anybody else because I have to make my own way. I am still learning to be okay with my disability. I am just 21 years old and I am still learning, even though I have been dealing with it all my life. So, I think in a way, it does create a barrier, but I think if I had the willpower, I could overcome it.” She described her technique for campus integration as “sit[ing] in the front and [being a] really good listen[er]...if I cannot see anything, I have to listen really well and if I am having a meeting or something like that, I usually listen really well or I get notes from somebody.” Otherwise, “I have not really had my disability affect that (campus participation) too much.”

When she has attended campus activities, Emily said she has attended either alone or with her roommate or a friend, never in a big group. She has made decisions to attend events based partially on the starting times of the events. She noted events starting after dark are problematic because she “...has more difficulty attending...I have to [use] the bus.” “The time of day is a big factor because I have reduced night vision and ...if it is a seminar ...where I am going to have to write something or see something, that also deters me from attending...otherwise, depending on my interest and who is really available to go with me or who is available to drive me.” She occasionally relies on friends to drive her, but transportation

presents a problem since she lives off-campus. The substantial time intervals between buses also has been an issue for Emily. She said that she wished that she lived closer to campus so she could walk. Emily said she was uncomfortable waiting for the bus alone at night and that her inability to see across rooms and the drill field causes her anxiety and prevents her from meeting with people.

### **Campus impressions.**

Emily responded to the question regarding how physically accessible she perceived Virginia Tech and said “I do not think it is.” She reflected on her early campus visit and replied, “I asked the Student with Disabilities Office if there were any other visually impaired people, they said there were very few because the campus is so big and it is very up and down, [requiring] lots of stairs. For me...it is not a huge deal, because ...I am not that severely impaired. It would probably be really difficult [for someone severely visually impaired].” When she was asked the question about appealing aspects of the Virginia Tech campus, Emily said “I think it is really hard to get around if you are visually impaired. There are lots of little nooks and crannies and sidewalks that go every which way. I mean it [appears] organized, but it is not really and it is all widespread.” She further said, “I cannot drive at night. When I need to get around and do things, if I want to be able to go to meetings and participate, it is kind of a pain to have to wait for the bus...since I have a car. Sometimes I think the classrooms [are not configured for the visually impaired] and the [black] boards and the lighting [are] very harsh, and...I have a hard time seeing even though I sit in the front...”

The location of Virginia Tech relative to her ability to participate in off-campus activities also poses a problem. Emily noted a lack of options to travel among the municipalities of

Blacksburg, Radford and Roanoke. She indicated that upon graduation she will relocate to a bigger city in order to facilitate her ability to travel independently.

At the conclusion of the interview Emily was asked what initially attracted her to Virginia Tech and what advice she would give high school students who are embarking on the college application and selection process. She said, “I heard good things about [Virginia Tech] and when I visited [I found] a lot of people I knew were coming here, which was also a comfort.” Because she was undecided at that time on her major, the academic reputation [of Virginia Tech] did not play a role.

She mused that campus navigation and the large number of students were her two biggest concerns Virginia Tech. She said, “...the professors were caring and willing to work with you if they were sought out.” When asked whether she would again select Virginia Tech if she could do so, Emily responded positively. However, she indicated she would live closer to campus in order to plan more effectively for her transportation needs.

### **Emerging Themes**

Contained in the following section is a discussion of the Twenty Statements Test and themes emerging from the three case studies. Each theme will be discussed from the perspectives of the students and how prior research supports or contradicts the student’s perspectives.

#### **Twenty Statements Test.**

The Twenty Statements Test (TST) as noted earlier is designed to collect rapid fire responses to the question “Who am I?” All three students had mostly positive versus negative responses (see appendix CC). David led all twenty (20) responses being classified as positive, Emily had nineteen (19) and Ann had eighteen (18) positive responses.

For conduct of this study four thematic categories were added to Roy & MacKay's (2002) original positive and negative classification, and the instrument and its findings are presented in Appendix DD. Statements were placed in one or more of six categories if the statement reflected some aspect of the: positive in tone; negative in tone; personal; environment; interactions; or disability. A seventh category of "other" was added to classify two responses which did not fit in any of the original six categories.

Overwhelmingly, the participants identified with their families and communities. Their visual disability, which was a dominant theme in Roy & MacKay's (2002) work was only addressed by Emily. Statements included regarding her disability support Roy & MacKay's findings that participants who struggle with simultaneous membership in the sighted and blind communities are more likely to have negative feelings about their vision than participants who are clearly in one or the other communities. Ann, born totally without sight, and David, who has only minor vision problems, are both firmly identified with their communities of blind and sighted communities.

### **Event identification.**

All three participants indicated that departmental and university list serves made them aware of upcoming events, but Ann and Emily rarely attended any of the announced events. The primary reason for not attending events was a lack of time. University web sites were also mentioned by all three as a source for identifying events. Emily noted that she relied on the Virginia Tech News site as an example. David and Emily also mentioned that they each browsed the campus newspaper for events and both said they only skimmed the headlines. When an article caught their attention they would read the article in-depth. None of the

participants relied on radio announcements for learning about upcoming events. David primarily listened to XM satellite radio and both he and Emily listened to radio for relaxation.

Event announcements used by sighted individuals were identified by all three participants as inaccessible for the visually impaired. Ann provided an example of messages scrawled on sidewalks, and both she and David mentioned fliers taped to sandwich boards and lamp posts as examples of messages that were of no value to them.

### **Role of vision.**

The three participants exhibited the full range of the visually-impaired population. David had only minor vision loss while Ann possessed no measurable vision. Emily occupied the middle of the continuum and had moderate vision loss, but unfortunately her loss is progressive. Ann and Emily both have incorporated assistive technology into their daily living. Ann suggested that the technology was an essential part of her life. In contrast, Emily has only begun to explore incorporating assistive technology into her day-to-day functions. Both have attended training on the use of technology, Ann has attended more programs.

Emily expressed concern about how to incorporate vision loss into her identity, explaining that periodically she feels more blind than others. David with his minor and stable visual impairment did not express significant problems due to his vision loss other than a minor inconvenience of being unable to read film sub-titles without his glasses.

### **Event attendance.**

Deciding how to attend and whom to attend an event with emerged as the biggest concern for the three participants. Obtaining transportation to campus created problems for both David and Emily. David said his choice of where to live off- campus was chosen primarily because of his desire to easily access campus. Emily similarly expressed frustration with her choice of off-

campus housing because of the extra time it required to transit between home and campus. Both Emily and David indicated that they occasionally drove to campus, but expressed frustration with the difficulties of locating parking and driving at night. Emily also said that she was hesitant to attend some events because she felt uncomfortable waiting at bus stops, particularly at night.

Ann identified and arranged off-campus housing before she decided to attend graduate school. She voiced that she was wary of attending night events, a sentiment shared by both David and Emily. All three participants suggested that they had concerns about traveling to unfamiliar areas and being unable to spot navigational landmarks.

Emily also raised a point specific to her visual disability, an inability to see faces in dimly lit rooms. She expressed frustration with the inability to see those persons who are talking as well as the difficulty to navigate in such rooms. Ann who lacks any vision did not address this issue during her interview.

### **Campus accessibility.**

All three participants raised concerns about campus inaccessibility for the visually-impaired. Ann (in the context of her undergraduate institution) and Emily both complained about meandering sidewalks and becoming side-tracked on their way to a destination. David and Emily commented that the Virginia Tech campus is large and complex and creates a challenge to transit between classes in a timely fashion.

Ann expressed appreciation for her urban campus because it has a logical layout, thus providing understanding of its spatial relationship. Emily mused that attending classes on an urban campus was quite easy. Conversely, David said he selected to attend Virginia Tech over the more urban Georgia Tech (located in Atlanta, Georgia) because of its rural setting.

### **University selection.**

Each student had a unique reason for their selection of an university. Initially, Emily was undecided as to which institution to attend and what should be her discipline. She chose Virginia Tech because she had friends who decided to attend and the campus was more urban than her hometown. David chose Virginia Tech because he is a Legacy Student, i.e. the son of a student athlete and he decided to attend Virginia Tech at a young age. Following baccalaureate graduation he decided to also seek an advanced degree at his alma mater.

Ann selected to pursue her undergraduate degree from DePaul University because she was interested in a specific program DePaul University offered and appeared to be the best match. Her graduate school selection was framed partially by her spouse who was employed in the metro Washington, D.C. area. She said she considered exploring programs outside of the metro area, but ultimately had to restrict the search process due to family commitments.

### **Chapter Summary**

Reviewed in this chapter are the data collection process and examination of the perceptions of the participant's regarding on-campus integration of students with visual impairments. Through the use of case studies, a discussion of common themes was presented. Several themes emerged and were each discussed, including event identification, the role of vision loss, navigation to and from events, campus impressions, and the university selection process. Each participant used their own unique approach to campus integration. Presented in Chapter Five is a discussion of the conclusions, implications and suggestions for future research topics.

## **Chapter Five**

### **Conclusions, Implications and Recommendations**

#### **Overview**

In this chapter I will reflect on my study as a whole, discuss the conclusions I have drawn, the study's implications and suggest a few topics for future research.

#### **Thoughts From the Interviews**

Two themes emerged from the interviews which I would like to reflect upon. The issue of choosing where to live off campus was brought up by all three participants several times. Second, the issue of disability as part of identity was brought up by Emily and I believe deserves further reflection.

##### **Choosing off campus housing.**

One of the themes that struck me the most from the interviews was the desire to take a break from campus, and still be able to return later in the day to attend an event. The topic is prominent in the research of Hodges & Keller (1999). In their research Hodges & Keller found that students who could take a break at home after class attended more extracurricular events than the students who stayed on campus all day. Emily mentioned being uncomfortable asking her friends to drive or join her at events. Complementing Emily are Ann's statements that she chose George Mason over two other schools because of ease in travel between campus and home. David likewise said he chose his apartment because it was close to campus and would be easy for him to return in the evening to attend events. I too can attest to choosing my graduate school housing in large part to its proximity to campus.

### **Disability as part of identity.**

Of my three study participants I found Emily's story the most intriguing. In large part this is because of the three study participants she is the one in transition between the sighted and blind communities. Both Ann and David are firmly a part of their communities. Emily at times has enough vision to feel a part of the sighted community, but in certain situations she is part of the blind community. Her situation provides a perfect example of one of Roy & MacKay's (2002) arguments that people who straddle the fence between sight and blindness face far greater challenges integrating the visual-impairment into their self-identity than people with no usable sight. Roy & MacKay continue that the visibility of one's vision loss is a key identifier to the level of integration of the disability into one's identity. Their argument is people whose vision loss is the most severe have incorporated this loss into their identity more than people who have a vision loss but feel they can hide [their vision loss] and "pass as sighted". The ability of a visually-impaired person to pass as sighted is often situational. For example, a visually-impaired person while home will navigate without the assistance of a cane, and for the most part appear sighted. On trips beyond their home and immediate surroundings they will usually travel with a cane or sighted assistance. They feel their vision loss is severe enough that the use of a cane to safely navigate in public places and to serve as an announcement to others of their visual limitations. This is important both from a safety perspective and one of etiquette, as it serves as an explanation as to why a proffered hand or wave is ignored.

### **Conclusions**

At the end of Chapter Three I suggested that my study would provide a wealth of information to propose programmatic changes to how Disability Services Offices assist students with visual impairments at the college level and offer guidance to high school counselors

working with high school seniors looking for assistance in choosing where to apply for their post-secondary education. A study of three college students instead provides pointers to topics where future study needs to be performed before programmatic change is implemented.

### **Application of the Study**

#### **High school seniors and prospective college students.**

Each of the three study participants chose their university based on unique desires, and wants, so a David Letterman “Top Ten” list of colleges and universities most welcoming to students with visual impairments could not be generated. Instead several suggestions emerged.

Both women noted the challenge of socializing at campus events. Ann contrasted the structure and support she had in high school with the independence of college. Emily similarly noted the frustration she had with finding people to accompany her to events. To me this suggests that a pre-college transition program where students can practice identifying, navigating to, and participating in social events may prove to be useful. I believe it is common practice at most colleges and universities to bring incoming freshmen to campus during the Summer between high school graduation and start of Fall classes for a few days of orientation. The Virginia Rehabilitation Center for the Blind and Visually-Impaired also offers a College Transition program for students preparing to enter college in the Fall.

A comment made by Emily towards the end of her interview makes me wonder if a college transition program might be beneficial prior to the college application process. Emily mused in hindsight whether or not she would have chosen Virginia Tech if given the opportunity to do it again. The idea which I will flesh out further in the Suggestions for Future Research section is that practicing how to identify, navigate to, and interact at social events will better

prepare rising high school seniors to look for campuses they think will be the most conducive to their personalities when on campus visits.

**Current college students.**

The themes emerging from my study for potential application at the college level were more numerous. I suspect several of the suggestions that follow already exist and that study participants either were not aware of the services or chose not to utilize them. Workshops to assist students on becoming involved in campus organizations and identifying off campus housing options are but two areas on which study participants mentioned. The challenge for college administrators is to make students aware of these events and to do so in a way students with disabilities are made aware of them without making it appear that the event(s) are targeted towards them.

College is the first time many students have the opportunity to advocate for themselves. Self advocacy potentially causes a crisis in identity. On one hand the student wants to be a part of the group and appear normal, while at the same time the student knows he or she needs certain accommodations to succeed in the classroom. The question faced by the student is how to balance the two, especially if requesting services from the Disabled Student Services office is going to conflict with the student's desire to melt in with his or her peers.

For some students with visual impairments (I limit my comments to this specific group because I am one and do not follow conversations in groups focusing on other disabilities) the result is to self advocate directly with course instructors and involve DSS offices only when needed. This results in a percentage of students on a given campus who would benefit from workshops or resources provided by DSS offices not learning about these services. Rules within the Federal Education Records Protection Act (FERPA) and the Health Information Privacy and

Protection Act (HIPPA) provide students with choice of self disclosure. I am inclined to think a potential solution would be for DSS offices to advertise workshops and services through the general student media outlets such as the campus news web site, student newspaper and radio station, and departmental and university mailing lists. There is possibly a legal issue with advertising services through outlets open to students who do not qualify for services in an attempt to reach students who may qualify.

The value of registering with campus DSS offices is one lost to many blind and visually impaired students. In a decade and a half of membership on the student lists of the American Council of the Blind (ACB) and National Federation of the Blind (NFB) I have been struck by the number of messages commenting on the hassles and headaches members felt when working with their DSS office. I feel safe in synthesizing the numerous conversations into a few points:

- 1) Encourage students to self advocate with faculty while remaining available to provide support.
- 2) Allow students to register once and remain eligible for services as long as they are enrolled at the institution.
- 3) Be clear on areas of expertise in office staff. The last point is crucial, blindness being a low incidence disability as compared with specific learning disabilities, students with visual impairments have a wealth of web-based resources to turn to and can often locate potential resources quicker than office staff unfamiliar with the needs of blind students.

In summary administrators working with future and current college students have to balance providing services for successful campus integration with the desire of the student to fit in with his or her peers.

## **Suggestions for Future Studies**

Below I will briefly discuss a few suggestions for future studies. A more in-depth discussion of each study is available in Appendix EE.

- 1) A programmatic study of college transition programs to explore the effectiveness in preparing students for the first year of college.
- 2) A nationwide version of my study.
- 3) A multiple disability local or Virginia specific variant.
- 4) An exploration of the role a disability plays (if any) in the selection of a major in college.
- 5) A study of disability and standardized testing.

## **Final Thoughts**

From the earliest stages of the research process I was struck by the lack of studies examining social and cultural issues faced by college students with visual impairments. I suspect this is in large part due to two factors: first students with visual impairments are among the smaller groups registered with DSS offices, and second, studies focusing on the use of assistive technology or participation in topic specific classes provide discrete parameters to work within. Social integration, the focus of my study is more elusive. In the previous section I suggested a few studies which could yield larger data sets for the subject area. I started this dissertation by laying out the arguments for a study examining the traits of college students with visual impairments who have successfully integrated themselves into the campus community. The first chapter introduced the subject by looking at students with disabilities attending college as a single group. I examined legal issues facing students with disabilities attending college including discussions of the relevant legislation and some of the legal challenges brought forth. In chapter two I presented a literature review and discussed key articles to frame my research for

a study focusing on issues of social integration of students with visual impairments attending four year colleges.

In chapter three I described the procedures for collecting and analyzing data. The chapter also covered the adjustments I made to facilitate data collection. Chapter four was where I synthesized my data and discussed the themes that emerged. The fifth chapter is where I describe applications of my research and propose topics for future studies.

As I near the conclusion of this dissertation it strikes me how the stories of the three study participants mirror my own life as a graduate student. I started graduate school at Virginia Tech much like David. I chose my off campus apartment in large part to its proximity to campus and other venues that would become a part of my regular routine. While I had given up driving over a decade earlier for safety reasons I heard through friends about the hassles of finding on campus parking. During the intervening years between starting and completing my course work my vision took a rapid decline and I experienced firsthand the frustration Emily has with feeling like she is blind sometimes and sighted at other times. For the past few years as I have struggled to complete my dissertation, I have come to embrace adaptive technology as a part of daily life much in the way Ann has. This dissertation has been written on a computer with speech synthesis, and many an hour has been spent typing while my vision has been too blurry to read a single word on the screen. A long white cane is my constant companion on my daily ventures beyond the house, and all professional and pleasure reading is done through synthetic speech.

I have enjoyed writing this dissertation in large part because it has given me an opportunity to study something I am passionate about, and because I hope it will serve as a

stepping stone towards a career where I can assist future generations of students complete their dreams of a college education.

As an absolutely final thought I encourage future potential doctoral students to read Thomas H. Benton's "Just Don't Go, Part 2," (Benton, 2009) essay about who should and shouldn't pursue a Ph.D. in the Humanities, his advice is just as apt for the field of Education

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Appendix A: Table of Case Studies

Author/Date Citation	Purpose	Sample/Methodology	<i>Instruments</i>
Beaty (1994)	*To determine to what extent psychosocial adjustment and academic achievement of visually handicapped and non-handicapped college students were related and to what extent they were significantly different	*73 students (30 visually-impaired, 43 sighted) from 2 universities in the American Mid-west	*Coopersmith Self-esteem Inventory *Social Provisions Scale *Student Information Questionnaire
Blake & Rust (2002)	*To investigate the relationship between self-esteem and self-efficacy among college students with physical and learning disabilities	*48 students (44 undergraduates & 4 graduates) from Middle Tennessee State University *19 disabilities represented	*The Collective Self-esteem Scale *Self-efficacy scale
Hodges & Keller (1999)	*To explore issues of integration among visually-impaired college students	*6 visually-impaired students, all seniors from a university in the American Southwest	*Membership questionnaire *Open-ended interview questions
Roy & MacKay (2002)	*The role visual impairment plays in the self-identity of college students with visual-impairments.	*16 blind & visually-impaired college students from Scottish & English universities	*Twenty Statements Test *Open-ended interviews

## Appendix B: Case Analysis

Below is a list of the Office of Civil Rights cases that make up the application /admission process and the once on campus portions of the legal analysis sections, their issues and OCR findings.

### *The Application/Admissions Process*

#### Admissions process

- Cases: Letter to: University of Massachusetts Dartmouth, No. 01-00-2074 (OCR Boston 10/16/00), Letter to: University of Pennsylvania, No. 03992104 (OCR Philadelphia 12/01/99), Letter to: DePaul University No. 05-99-2050 (OCR Chicago 1/21/00), and Letter to: St. Petersburg Junior College, No. 04002170 (OCR Atlanta 12/20/00).
- Ruling: The courts ruled that having a disability does not provide a free pass to college admission and refined the definition of a reasonable accommodation.

#### Alternative admissions requirements

- Cases: Letter to: Institute of Transpersonal Psychology, 16 NDLR 270 (OCR San Francisco 1999), Letter to: Florida Community College, No. 04002062 (OCR Atlanta 9/12/00).
- Ruling: Colleges have the right to require an applicant to have a regular/college prep high school diploma or GED (general education diploma) as a requirement for admission.

#### Pre-admission interview questions and a student's right to self-disclosure

- Cases: Letter to: Three Rivers Community College, 19 NDLR 60 (OCR 1999), Letter to: American Baptist College, No. 04-99-2149 (OCR Region IV, 1999), Letter to: College of Charleston, 17 NDLR 164 (OCR 1999), Letter to: Conception Seminary College, 18 NDLR 216 (OCR Kansas City 2000).

- Ruling: Colleges are limited to when personal information can be requested, and students have the right to choose if and when they to disclose medical information.

### Flagging

- Issue Summary: Flagging is the process by which the Educational Testing Services (ETS) notates standardized admissions exams, the SAT and ACT, indicating that the exam was taken under modified conditions such as extended time, in a private room, or the use of aides, all of which are common practices among students with disabilities seeking accommodation. This raises a privacy issue. An off shoot of this issue is students without disabilities requesting accommodation to gain an unfair advantage on the test.
- Case review: The issue was discussed in: Disability Compliance Bulletin (2002), The Special Educator (2004), and Your School and the Law (2004).

### Burden of proof

- Cases: Letter to San Diego Mesa College (CA), 10 NDLR 199 (OCR 1996)) and Letter to the University of Idaho, (OCR Seattle, 5/26/99)
- Ruling: Colleges can require students to provide documentation in a timely manner if the student is seeking accommodations.

### *Once on Campus*

The hearings cited below provide an accurate representation of the physical accessibility issues students have raised while attending college. Several hearings are cited multiple times due to the multiple issues brought forth in them. The following seven issues have been brought before the Office of Civil Rights; (a) parking lot accessibility (Letter to: Spring Hill College, No. 04-01-2068 (LRP 04-01-2068) (OCR, IV Atlanta (AL) 2001), Letter to: Appalachian State University, 29 NDLR 236 (OCRXI, D.C. (NC) 2004), Letter to: Cabrini College, 29 NDLR 183

(OCR III, Philadelphia (PA) 2004), Letter to: Michigan State University, Letter to: Michigan State University, 31 NDLR 100 (OCR II, Cleveland (MI) 2005), Letter to: University of Massachusetts - Amherst, 31 NDLR 230 (OCR 2005)); (b) routes on campus (Letter to: Appalachian State University, 29 NDLR 236 (OCR XI, D.C. (NC) 2004), Letter to: University of Massachusetts - Amherst, 31 NDLR 230 (OCR 2005), Letter to: Spring Hill College, No. 04-01-2068 (LRP 04-01-2068) (OCR, IV Atlanta (AL) 2001)), (c) automatic doors (Letter to: Appalachian State University, 29 NDLR 236 (OCR XI, D.C. (NC) 2004), Letter to: University of South Carolina at Beaufort, No. 04-04-2094 (105 LRP 12377) (OCR XI, D.C. 2004)); (d) accessible bathrooms (Letter to: Appalachian State University, 29 NDLR 236 (OCR XI, D.C. (NC) 2004), Letter to: Spring Hill College, No. 04-01-2068 (LRP 04-01-2068) (OCR, IV Atlanta (AL) 2001, Letter to: University of California, Berkeley, No. 09-00-2097 (102 LRP 33667) (OCR IX, San Francisco 2002)); (e) renovations (Letter to University of California, Berkeley, Letter to: University of California, Berkeley, No. 09-00-2097 (102 LRP 33667) (OCR IX, San Francisco 2002), Letter to: Shasta College, 26 NDLR 142 (OCR IX, San Francisco (CA) 2003)); (f) assistive technology (Letter to: Santa Clara University, No. 09-00-2108 (102 LRP 33092) (OCR IX, San Francisco 2000), Letter to: Notre Dame College, 20 NDLR 29 (OCR 2000); and (g) emergency preparedness (Letter to: Arizona State University, No. 08-02-2020 (102 LRP 38487) (OCR VIII, Denver (AZ) 2002)).

#### Parking lot accessibility

- Cases: Letter to: Spring Hill College, No. 04-01-2068 (LRP 04-01-2068) (OCR, IV Atlanta (AL) 2001), Letter to: Appalachian State University, 29 NDLR 236 (OCR XI, D.C. (NC) 2004), Letter to: Cabrini College, 29 NDLR 183 (OCR III, Philadelphia (PA) 2004), Letter to: Michigan State University, Letter to: Michigan State University, 31

NDLR 100 (OCR II, Cleveland (MI) 2005), Letter to: University of Massachusetts - Amherst, 31 NDLR 230 (OCR 2005),

- Issues covered: Included the location of the parking spaces on campus, the number of spaces, the width of the spaces, what items (such as lighting) were near the spaces, as well as the paths connecting the parking lots to campus.

#### Campus routes

- Cases: Letter to: Appalachian State University, 29 NDLR 236 (OCR XI, D.C. (NC) 2004), Letter to: University of Massachusetts - Amherst, 31 NDLR 230 (OCR 2005), Letter to: Spring Hill College, No. 04-01-2068 (LRP 04-01-2068) (OCR, IV Atlanta (AL) 2001).
- Issues covered: Included the width of the paths, surface texture (inlaid stone may look nice but is hard on wheelchairs), and the grade of the incline. The Office included an exemption for older building where renovations would be cost prohibitive.

#### Automatic doors

- Cases: Letter to: Appalachian State University, 29 NDLR 236 (OCR XI, D.C. (NC) 2004), Letter to: University of South Carolina at Beaufort, No. 04-04-2094 (105 LRP 12377) (OCR XI, D.C. 2004).
- Issues covered: Included location on buildings and the relationship to other entrances and ramps that were nearby.

#### Accessible bathrooms

- Cases: Letter to: Appalachian State University, 29 NDLR 236 (OCR XI, D.C. (NC) 2004), Letter to: Spring Hill College, No. 04-01-2068 (LRP 04-01-2068) (OCR, IV

Atlanta (AL) 2001, Letter to: University of California, Berkeley, No. 09-00-2097 (102 LRP 33667) (OCR IX, San Francisco 2002),

- Issues covered: Included the location within the building, and the number and width of stalls.

#### Renovations

- Cases: Letter to University of California, Berkeley, Letter to: University of California, Berkeley, No. 09-00-2097 (102 LRP 33667) (OCR IX, San Francisco 2002), Letter to: Shasta College, 26 NDLR 142 (OCR IX, San Francisco (CA) 2003),
- Issues covered: Included making renovated buildings accessible.

#### Assistive technology

- Cases: Letter to: Santa Clara University, No. 09-00-2108 (102 LRP 33092) (OCR IX, San Francisco 2000), Letter to: Notre Dame College, 20 NDLR 29 (OCR 2000),
- Issues covered: Were the provision of assistive technology such as screen readers, material in alternative format as well as the location on campus of the technology. The issue of students providing notice of need was also covered.

#### Emergency preparedness

- Cases: Letter to: Arizona State University, No. 08-02-2020 (102 LRP 38487) (OCR VIII, Denver (AZ) 2002).
- Issues covered: The hearing focused on making sure a plan was in place to provide evacuation assistance for those who need it and to provide a method of identifying the dorm rooms of students who may not be able to evacuate on their own.

## Appendix C: E-mail Recruitment – Virginia Tech

### Call for Study Participants: Students with Visual Impairments

A graduate student researcher in Educational Leadership and Policy Studies, Virginia Tech, is seeking visually-impaired undergraduate and graduate college students to participate in a study that examines their perceptions of social integration in higher education. Participants will be asked to provide demographic and personal data, complete two questionnaires and participate in an interview. For more information please contact Patrick Johnson at [pajohns1@vt.edu](mailto:pajohns1@vt.edu) or visit the Services for Students with Disabilities Office at Suite 300, the Kent Square Building, 250 South Main St. to pick up an information packet.

## Appendix D: E-mail Recruitment – Radford University

### Call for Study Participants: Students with Visual Impairments

A graduate student researcher in Educational Leadership and Policy Studies, Virginia Tech, is seeking visually-impaired undergraduate and graduate college students to participate in a study that examines their perceptions of social integration in higher education. Participants will be asked to provide demographic and personal data, complete two questionnaires and participate in an interview. For more information, please contact Patrick Johnson at [pajohns1@vt.edu](mailto:pajohns1@vt.edu) or visit the Disability Resource Office on the lower level of Tyler Hall.

## Appendix E: Request For Participation

Dear Students,

Are you a blind or visually-impaired undergraduate or graduate student? If yes, please read on.

My name is Patrick Johnson, I am a Ph.D. candidate in the Special Education Administration program at Virginia Tech. As part of my dissertation I am studying issues of social integration among college students with a visual impairment.

My research involves interviewing visually impaired college students and getting their responses to a pair of short surveys. If selected you will be asked to fill out an initial questionnaire, complete two short surveys and participate in a one on one interview.

All information will remain strictly confidential. Information provided by the participant, including the narrative gained by interviews, will be confidential and be displayed under pseudonyms. Information provided by the participant will be stored securely, and copies of the transcribed interviews will be provided for your review and edits.

There will be no risks beyond what you experience in daily life. Since you will determine what you say during the interviews and have the opportunity to modify your responses upon receipt of the interview transcript you will be assured of confidentiality. Participants may benefit through personal reflection of their college or university experiences, but a greater benefit should be provided those who read about your experiences. Participants may withdraw from the study at any time by contacting either the researcher or his dissertation advisor at the phone numbers/e-mail addresses below. All data provided by the participant who withdraw will be destroyed.

If you have questions about the study please contact myself Patrick Johnson at (540) 633-1318, my dissertation advisor Dr. Toni Elitharp or the department chair Dr. David Alexander at (540) 231-5642.

If you are interested in participating please complete the attached letter of consent and questionnaire and return in the enclosed envelope.

Sincerely,

Patrick Johnson, Ph.D. candidate  
Department of Special Education Administration  
Virginia Tech  
(540) 633-1318  
**pajohns1@vt.edu**

Appendix F: Student Information Questionnaire

Dear Student,

Please complete the following questionnaire to the best of your ability. All information will remain strictly confidential in accordance with the rules and regulations set forth by the Institutional Review Board of Virginia Tech.

Name: \_\_\_\_\_

Choose an alias (this will be used when referring to your responses within the study), for example “Jack”, “Emily”, or “Olivia”

\_\_\_\_\_

Address \_\_\_\_\_

Phone number \_\_\_\_\_

e-mail address \_\_\_\_\_

Please circle the appropriate answer

Gender: Female Male

Class Standing: Freshman Sophomore Junior Senior Graduate

Are you a student at: Virginia Tech Radford University

Number of semesters you have been in college:

\_\_\_\_\_

Major: \_\_\_\_\_

Names of five (5) of the most desirable colleges or universities you considering attending:

\_\_\_\_\_

Names of five (5) of the most desirable colleges or universities you actually applied:

\_\_\_\_\_

Do you live: on-campus off-campus

If on-campus do you live in a:   dorm   fraternity/sorority, other (please describe)

\_\_\_\_\_

If off-campus do you live at home, in an apartment, other (please describe)

\_\_\_\_\_

If off-campus how far from campus do you live? Short walk, several miles, but on a bus route,  
several miles not on a bus route, a good distance away

How many roommates do you have? \_\_\_\_\_

#### Membership

On-campus organizations: \_\_\_\_\_

Off-campus organizations: \_\_\_\_\_

Level of visual impairment:   Minor (easily correctable with lenses) or Severe (requires text  
magnification or speech synthesis)

Has your level of vision remained stable or has it deteriorated over the past five years?

Would you mind sharing the name of your visual disability:

\_\_\_\_\_

Have you had mobility and orientation training? Yes           No

Have you participated in training at the Richmond Rehab Center or other state residential  
facility? Yes   No

Thank you for completing the Student Data Sheet. Please return this form and the attached  
Informed Consent Form in the accompanying envelope or by e-mail to [pajohns1@vt.edu](mailto:pajohns1@vt.edu).

## Appendix G Informed Consent Form

Virginia Polytechnic Institute & State University  
Consent for Participation in Research  
Exploring Issues of Social Accessibility of College Students with Visual Impairments

### Why am I being asked?

You are being asked to be a subject in a research study investigating the challenges of social accessibility of college students with visual impairments. In this study you will be asked about your participation in on-campus activities, how you hear about the activities, why you chose the ones you do, as well as the factors that may prevent you from participating in other activities. Additionally you will be asked about why you chose to attend Radford University or Virginia Tech. This study is being conducted by Patrick Johnson, Department of Special Education Administration at Virginia Tech. You have been asked to participate in the research because you are a college student with a visual impairment registered with the Disability Services Center at Radford or Virginia Tech. We ask that you read this form and ask any questions that you may have before agreeing to be in the research.

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University. If you decide to participate, you are free to withdraw at any time without affecting that relationship.

### Why is this research being done?

Research has not been conducted on social accessibility and integration of visually-impaired college students. This study has been designed to examine the issues of social accessibility and integration into the campus environment by students with visual impairments. Participants will be asked to share their experiences during the college or university selection process. They will also be asked to identify factors that aided and hindered their social integration into the higher education environment. Information gathered from the research will provide valuable insight to college administrators regarding the provision of support services for their students with visual impairments. Career advisers and guidance counselors should be better able to assist their visually-impaired students identify higher education institutions that will best meet their needs.

### What is the purpose of this research study?

Undergraduate and graduate students who attend Radford University and Virginia Tech are being recruited as participants in a research study that investigates the challenges of social integration of visually-impaired college students. Participants will be asked questions concerning their involvement in on-campus social activities. For example, participants will be queried about how they learned about various activities, why they selected certain events, and what prevented them from participating in other activities. Participants also will be asked about why they choose to attend Radford University or Virginia Tech. The purpose of this research is to explore the factors that lead to a successful integration into the social environment at either Radford University or Virginia Tech.

### What procedures are involved?

## Appendix H: Twenty Statements Test

### **Instructions:**

1. "Please give 20 different statements in answer to the question, 'Who am I?' Give these answers as if you were giving them to yourself, not to somebody else."
2. Upon completing the first step "Can you now go back over your 20 statements and identify 5 which you think apply best to yourself. Rate them in importance from 1 to 5."

## Appendix I: Locus of Control

Instructions: For each pair of responses, select the answer you most agree with.

1.    a.    Children get into trouble because their parents punish them too much.  
      b.    The trouble with most children nowadays is that their parents are too easy with them.
2.    a.    Many of the unhappy things in people's lives are - partly due to bad luck.  
      b.    People's misfortunes result from the mistakes they make.
3.    a.    One of the major reasons why we have wars is because people don't take enough interest in politics.  
      b.    There will always be wars, no matter how hard people - try to prevent them.
4.    a.    In the long run people get the respect they deserve in this world.  
      b.    Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5.    a.    The idea that teachers are unfair to students is nonsense.  
      b.    Most students don't realize the extent to which their grades are influenced by accidental happenings.
6.    a.    Without the right breaks one cannot be an effective leader.  
      b.    Capable people who fail to become leaders have not taken advantage of their opportunities.
7.    a.    No matter how hard you try some people just don't like you.  
      b.    People who can't get others to like them don't understand how to get along with others.
8.    a.    Heredity plays the major role in determining one's personality.  
      b.    It is one's experiences in life which determine what they're like.
9.    a.    I have often found that what is going to happen will happen.  
      b.    Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10.   a.    In the case of the well prepared student there is rarely if ever such a thing as an unfair test.  
      b.    Many times exam questions tend to be so unrelated to course work that studying is really useless.
11.   a.    Becoming a success is a matter of hard work, luck has little or nothing to do with it.

- b. Getting a good job depends mainly on being in the right place at the right time.
12. a. The average citizen can have an influence in government decisions.  
b. This world is run by the few people in power, and there is not much the little guy can do about it.
13. a. When I make plans, I am almost certain that I can make them work.  
b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14. a. There are certain people who are just no good.  
b. There is some good in everybody.
15. a. In my case getting what I want has little or nothing to do with luck.  
b. Many times we might just as well decide what to do by flipping a coin.
16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.  
b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.  
b. By taking an active part in political and social affairs the people can control world events.
18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.  
b. There really is no such thing as "luck."
19. a. One should always be willing to admit mistakes.  
b. It is usually best to cover up one's mistakes.
20. a. It is hard to know whether or not a person really likes you.  
b. How many friends you have depends upon how nice a person you are.
21. a. In the long run the bad things that happen to us are balanced by the good ones.  
b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22. a. With enough effort we can wipe out political corruption.  
b. It is difficult for people to have much control over the things politicians do in office.
23. a. Sometimes I can't understand how teachers arrive at the grades they give.  
b. There is a direct connection between how hard I study and the grades I get.

24. a. A good leader expects people to decide for themselves what they should do.  
b. A good leader makes it clear to everybody what their jobs are.
25. a. Many times I feel that I have little influence over the things that happen to me.  
b. It is impossible for me to believe that chance or luck plays an important role in my life.
26. a. People are lonely because they don't try to be friendly.  
b. There's not much use in trying too hard to please people, if they like you, they like you.
27. a. There is too much emphasis on athletics in high school.  
b. Team sports are an excellent way to build character.
28. a. What happens to me is my own doing.  
b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29. a. Most of the time I can't understand why politicians behave the way they do.  
b. In the long run the people are responsible for bad government on a national as well as on a local level.

## Appendix J: Interview questions

### **Event identification/awareness**

1. How do you find out about what is going on around campus?
2. Do you listen to the campus radio station or read the campus paper, if so in what format (i.e. via, radio, internet, hardcopy)
3. Which campus mailing lists are you subscribed to?
4. Of the mailing lists listed above how frequently do they alert you to events that you then consider attending?
5. Do you read the Roanoke Times or listen to commercial radio stations such as K92, J104.5, 105.1 The Bear?
6. You said that you participated in the following on-campus activities \*\*\*\*\*, what drew you to them?
7. You said that you participated in the following off-campus activities \*\*\*\*\*, what drew you to them?

### **Mobility/Vision Issues**

1. In your initial questionnaire you described your vision as \*\*\*\*\*, how would you say that has effected your integration in campus life?
2. Do you see your visual impairment as a barrier to participating in campus activities?
3. What tools/techniques have you found that aide in your integration?
4. When you attend campus events do you generally go alone or with a group of friends?
5. What are the determining factors on which events you attend, or with whom you attend the events?
6. What would you say has been the biggest hurdle to fuller campus participation?

### **Campus impressions**

1. What are your impressions of this campus in terms of being physically & socially friendly to students with visual impairments?
2. What do you see as the most appealing aspects to this campus in terms of being accommodating to your needs?
3. What would you describe as the biggest barriers to your participation in on campus events?
4. Does the campus' location have any effect in how you perceive your participation in on campus activities?
5. Thinking back to when you were choosing where to attend, what drew you to \*\*\*\*\* over the other colleges/universities you applied to?



Appendix L: IRB Application

Email completed form and all applicable supporting documents (see, <http://www.irb.vt.edu/pages/researchers.htm#supporting>) to [irb@vt.edu](mailto:irb@vt.edu) (PDFs preferred). Copy all investigators listed on the application.

## Section 1: Project Information

### 1.1 PROJECT TITLE:

Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study of Current Students at a Land-Grant and Regionally-Known University in Western Virginia
---

### 1.2 PRINCIPAL INVESTIGATOR (Virginia Tech faculty only)

Name: <b>Richard Salmon</b>	Virginia Tech department: <b>ELPS</b>
Email address: <b>rgsalmon@vt.edu</b>	VT PID: <b>Rgsalmon</b>
Human subject protections training (required, see <a href="http://www.irb.vt.edu/pages/training.htm">http://www.irb.vt.edu/pages/training.htm</a> ) completed through: <input checked="" type="checkbox"/> VT IRB Training <input type="checkbox"/> Other, certificate is attached <input type="checkbox"/> Other, training is on file with IRB office	

### 1.3 CO-INVESTIGATORS (Include any individual responsible for the design and conduct of the study, or who will use data for publication purposes. Attach separate pages as necessary.)

Name: <b>Patrick M. Johnson</b>	VT PID -or- organization name if non-VT employee or agent: <b>Special Education Admin/ELPS</b>
Email address: <b>pajohns1@vt.edu</b>	
Human subject protections training (required) completed through: <input checked="" type="checkbox"/> VT IRB Training <input type="checkbox"/> Other, certificate is attached <input type="checkbox"/> Other, training is on file with IRB office	

Name: <b>Toni Elitharp</b>	VT PID -or- organization name if non-VT employee or agent: <b>elitharp</b>
Email address: <b>telitharp@pcva.us</b>	
Human subject protections training (required) completed through: <input checked="" type="checkbox"/> VT IRB Training <input type="checkbox"/> Other, certificate is attached <input type="checkbox"/> Other, training is on file with IRB office	

Name:	
Email address:	VT PID -or- organization name if non-VT employee or agent:
Human subject protections training (required) completed through: <input type="checkbox"/> VT IRB Training <input type="checkbox"/> Other, certificate is attached <input type="checkbox"/> Other, training is on file with IRB office	

*Include with this application a current CV, resume, or biosketch for all investigators listed above*

#### 1.4 DEPARTMENTAL REVIEWER

If required, view <http://www.irb.vt.edu/pages/researchers.htm> - click on “instructions” under Research Protocol.

Name:	VT PID:	Email:
_____	_____	_____
Mail (campus code: 0497), fax (540-231-0959), or scan/email		
Signature	Date	( <a href="mailto:irb@vt.edu">irb@vt.edu</a> ) signed page to the IRB office.

#### 1.5 DO ANY OF THE INVESTIGATORS OF THIS PROJECT HAVE A REPORTABLE CONFLICT OF INTEREST? (<http://www.irb.vt.edu/pages/researchers.htm#conflict>)

- No  
 Yes, explain:

#### 1.6 WILL THIS RESEARCH INVOLVE COLLABORATION WITH ANOTHER INSTITUTION?

- No, go to question 1.7  
 Yes, answer questions within table

IF YES
<b>Provide the name of the institution</b> [for institutions located overseas, please also provide name of country]:
<b>Indicate the status of this research project with the other institution’s IRB:</b> <input type="checkbox"/> Pending approval <input type="checkbox"/> Approved [ <i>include approval letter with protocol</i> ] <input type="checkbox"/> Other institution does not have a human subject protections review board <input type="checkbox"/> Other, explain:
<b>Will the collaborating institution(s) be engaged in the research?</b> ( <a href="http://www.hhs.gov/ohrp/humansubjects/assurance/engage.htm">http://www.hhs.gov/ohrp/humansubjects/assurance/engage.htm</a> ) <input type="checkbox"/> No <input type="checkbox"/> Yes
<b>Will Virginia Tech’s IRB review all human subject research activities involved with this project?</b> <input type="checkbox"/> No, provide the name of the primary institution: <input type="checkbox"/> Yes  <i>Note: primary institution = primary recipient of the grant or main coordinating center</i>

#### 1.7 IS THIS RESEARCH FUNDED?

- No, go to question 1.8  
 Yes, answer questions within table

IF YES
Provide the name of the sponsor [if NIH, specify department]:
Provide the VT Office of Sponsored Programs (OSP) proposal, grant, or fund number related to this project: <input type="checkbox"/> OSP number pending <input type="checkbox"/> Submission through OSP not required for this project
Is this project receiving federal funds? <input type="checkbox"/> No <input type="checkbox"/> Yes <i>[include grant application, OSP proposal, or "statement of work" with protocol]</i>  If yes,  <b>Does the grant application, OSP proposal, or "statement of work" related to this project include activities involving human subjects that are <u>not</u> covered within this IRB application?</b> <input type="checkbox"/> No, all human subject activities are covered in this IRB application <input type="checkbox"/> Yes, however these activities will be covered in future VT IRB applications, these activities include: <input type="checkbox"/> Yes, however these activities have been covered in past VT IRB applications, the IRB number(s) are as follows: <input type="checkbox"/> Yes, however these activities have been or will be reviewed by another institution's IRB, the name of this institution is as follows: <input type="checkbox"/> Other, explain:  <b>Is Virginia Tech the primary awardee or the coordinating center of this grant?</b> <input type="checkbox"/> No, provide the name of the primary institution: <input type="checkbox"/> Yes

**1.8 DOES THIS STUDY ONLY INVOLVE THE COLLECTION OR STUDY OF EXISTING DATA?**

*Please note: it is not considered existing data if a researcher transfers to Virginia Tech from another institution and will be conducting data analysis of an on-going study.*

- No**, go to question 1.9  
 **Yes**, respond only to the following sections within this document: **Section 1** (Project Information), **Section 2** (Justification), **Section 8** (Confidentiality/Anonymity), and **Section 14** (Research Involving Existing Data)

**1.9 DOES THIS STUDY INVOLVE CONFIDENTIAL OR PROPRIETARY INFORMATION (OTHER THAN HUMAN SUBJECT CONFIDENTIAL INFORMATION), OR INFORMATION RESTRICTED FOR NATIONAL SECURITY OR OTHER REASONS BY A U.S. GOVERNMENT AGENCY?**

*For example – government / industry proprietary or confidential trade secret information*

- No**  
 **Yes**, describe:

**1.10 DOES THIS STUDY INVOLVE SHIPPING ANY TANGIBLE ITEM, BIOLOGICAL OR SELECT AGENT OUTSIDE THE U.S.?**

- No  
 Yes

## Section 2: Justification

### 2.1 DESCRIBE THE BACKGROUND, PURPOSE, AND ANTICIPATED FINDINGS OF THIS STUDY:

The purpose of this study is to continue the research conducted by Hodges & Keller (1999) and Roy & MacKay (2002) that explored how visually-impaired students at the college and university level integrate their disability into their on-campus interactions. This study will examine several aspects of the integration process and determine how these aspects affected the choices made by visually-impaired students to attend certain colleges and universities.

The primary question in this study is: What role does visual impairment play in the choices students make in the selection of a college or university? The second and ancillary question is: How do individuals with visual impairment relate socially to other students? The two questions will be analyzed from parallel vantages. The first vantage solicits the perceptions of college students who agreed to participate in the conduct of this study. Participants will be asked to respond to a series of statements regarding college choice from "I am here" and "This is what I am looking for" perspectives (Hodge & Keller, 1999). For analysis of the second vantage, the participants will be asked to discuss how they interact socially with their on-campus peers and what support structures they have relied and/or developed in order to succeed in college. Both vantages will incorporate the use of qualitative and quantitative methods and will involve students who represent two universities, Radford University and Virginia Tech. The participants for this study will be selected from students enrolled in several undergraduate and graduate majors and are registered with their respective Office of Disabled Services. The participant students will be located at various stages of degree completion which should provide insight regarding various stages of their integration into their universities.

This study also will help determine the reasons visually-impaired individuals have chosen to attend certain universities. The study will provide background information concerning campus environments, services offered, and major areas of study available.

### 2.2 EXPLAIN WHAT THE RESEARCH TEAM PLANS TO DO WITH THE STUDY RESULTS:

*For example - publish or use for dissertation*

The results of the study will be used in my dissertation.

### 2.3 DESCRIBE THE RELATIONSHIP (IF ANY) THIS IRB APPLICATION HAS WITH ANY PREVIOUS OR UPCOMING VT IRB APPLICATIONS, INCLUDING INTERIM APPROVALS:

None

## Section 3: Recruitment

### 3.1 DESCRIBE THE SUBJECT POOL, INCLUDING INCLUSION AND EXCLUSION CRITERIA AND NUMBER OF SUBJECTS:

*Examples of inclusion/exclusion criteria - gender, age, health status, ethnicity*

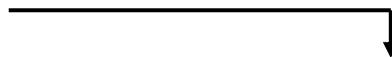
Participants in this study will consist of graduate and undergraduate students at Virginia Tech and Radford University who consider themselves visually-impaired. Due to the small number of visually-impaired students at both universities (less than a dozen are registered at either universities' disability services office), the entire visually-impaired population will be asked to participate.

### 3.2 WILL EXISTING RECORDS BE USED TO IDENTIFY AND CONTACT / RECRUIT SUBJECTS?

*Examples of existing records - directories, class roster, university records, educational records*

No, go to question 3.3

Yes, answer questions within table



IF YES	
Are these records private or public?	
<input type="checkbox"/>	Public
<input type="checkbox"/>	Private, describe the researcher's privilege to the records:
Will student, faculty, and/or staff records or contact information be requested from the University?	
<input type="checkbox"/>	No
<input type="checkbox"/>	Yes, visit the following link for further information: <a href="http://www.policies.vt.edu/index.php">http://www.policies.vt.edu/index.php</a> (policy no. 2010)

### 3.3 DESCRIBE RECRUITMENT METHODS, INCLUDING HOW THE STUDY WILL BE ADVERTISED OR INTRODUCED TO SUBJECTS:

*[Include all recruitment materials with this application (required for all protocols if data will be collected from people) e.g., flyers/posters, invitation letter/e-mail, telephone recruitment script, SONA announcement, etc.]*

Participants for this study will be recruited similar to the approach as described by Beaty (1994); Blake & Rust (2002); and Hodges & Keller (1999). Informational packets will be sent to the disability services offices of the two universities for distribution to the prospective participant students. Two solicitation e-mails requesting their participation in the study also will be sent. The first will be sent to students registered with the disability service offices, and the second sent to the graduate and undergraduate student lists of both universities soliciting participation from visually-impaired students (see Appendix C & D for text of e-mails). Sending e-mail to the campus-wide communities should increase study participation by raising awareness of the study to the broader campus communities including visually-impaired students who are not registered with the disability services offices. Hopefully, additional participants can be identified since the visually-impaired population is limited. Radford University currently has seven students identified as visually-impaired (Clark, 2007) and Virginia Tech has ten (Angle, 2007).

### 3.4 PROVIDE AN EXPLANATION FOR CHOOSING THIS POPULATION:

*Note: the IRB must ensure that the risks and benefits of participating in a study are distributed equitably among the general population and that a specific population is not targeted because of ease of recruitment.*

**Although small, the visually-impaired student population represents one of the largest sub-groups of students with disabilities on today's college campus. Unfortunately, the process by which they successfully integrate socially into the campus community has received little scholarly study. By studying the visually impaired student populations, the techniques and strategies these students have used to integrate into their university communities can be identified. This information should assist faculty and administrators work more effectively with visually-impaired students. Thus, a framework can be designed and implemented that will assist and encourage the social integration of visually-impaired students into campus communities.**

## **Section 4: Consent Process**

For more information about consent process and consent forms visit the following link:  
<http://www.irb.vt.edu/pages/consent.htm>

*If feasible, researchers are advised and may be required to obtain signed consent from each participant unless obtaining signatures leads to an increase of risk (e.g., the only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting in a breach of confidentiality). Signed consent is typically not required for low risk questionnaires (consent is implied) unless audio/video recording or an in-person interview is involved. If researchers will not be obtaining signed consent, participants must, in most cases, be supplied with consent information in a different format (e.g., in recruitment document, at the beginning of survey instrument, read to participant over the phone, information sheet physically or verbally provided to participant).*

### **4.1 CHECK ALL OF THE FOLLOWING THAT APPLY TO THIS STUDY'S CONSENT PROCESS:**

- Verbal consent will be obtained from participants *[include verbal script with this application]*
- Written/signed consent will be obtained from participants *[include consent form(s) with this application]*
- Consent will be implied from the return of completed questionnaire. Note: The IRB recommends providing consent information in a recruitment document or at the beginning of the questionnaire (if the study only involves implied consent, skip to Section 5 below)
- Other, describe:

### **4.2 PROVIDE A GENERAL DESCRIPTION OF THE PROCESS THE RESEARCH TEAM WILL USE TO OBTAIN AND MAINTAIN INFORMED CONSENT:**

**Written consent will be collected during the initial recruitment phase. Participants will be asked to return an informed consent form along with their data sheet. If the informed consent form is not returned, but the participant meets all other requirements to participate in the study they will be given the opportunity to complete an informed consent form at the time of the interview.**

**Verbal consent will be collected at the time of the interview to reaffirm willingness to continue in the study.**

### **4.3 WHO, FROM THE RESEARCH TEAM, WILL BE OVERSEEING THE PROCESS AND OBTAINING CONSENT FROM SUBJECTS?**

**Patrick Johnson**

#### 4.4 WHERE WILL THE CONSENT PROCESS TAKE PLACE?

As noted above in 4.2 consent will occur twice, written consent at the initial recruitment phase and verbal consent at the beginning of the interview. If consent is not reaffirmed at the interview any material containing information about the participant will be destroyed.

#### 4.5 DURING WHAT POINT IN THE STUDY PROCESS WILL CONSENTING OCCUR?

*Note: unless waived by the IRB, participants must be consented before completing any study procedure, including screening questionnaires.*

Consent will be collected twice. Written consent will be collected as part of the initial recruitment procedures. Verbal consent to continue in the study will be obtained prior to the interview portion of the study.

#### 4.6 IF APPLICABLE, DESCRIBE HOW THE RESEARCHERS WILL GIVE SUBJECTS AMPLE TIME TO REVIEW THE CONSENT DOCUMENT BEFORE SIGNING:

*Note: typically applicable for complex studies, studies involving more than one session, or studies involving more of a risk to subjects.*

Participants who respond to the solicitation for participation in the study will be required to complete and return a data sheet, including a signed informed consent form prior to commencement of the study. An additional safeguard that requires verbal consent prior to conduct of the interview provides an additional opportunity to withdraw from the study.

Not applicable

## Section 5: Procedures

#### 5.1 PROVIDE A STEP-BY-STEP THOROUGH EXPLANATION OF ALL STUDY PROCEDURES EXPECTED FROM STUDY PARTICIPANTS, INCLUDING TIME COMMITMENT & LOCATION:

The first step will be for the participants to read the recruitment and the informed consent letters. If the student decides to participate the student is required to sign the informed consent form, complete the data collection instrument, and return both to either the Disability Services Office or the researcher. Completion of the first step should take between ten (10) and fifteen (15) minutes. Upon receipt of the informed consent form and data collection instrument, the researcher (Patrick Johnson) will contact the participant to schedule an interview. The interview will be held at a location and time mutually convenient for the student and researcher. The most likely location will be on either the Virginia Tech or Radford campuses. Off-campus locations or telephone interviews will be arranged if requested by the participant. At the beginning of the interview, participants will be reminded of their right to withdraw at any time from the study. Verbal consent will be requested prior to commencement of the interview. The participants will then be given the Twenty Statements Test. The instrument prompts the participants to respond quickly to the question, "Who am I?" The participants will be given the option to respond either orally or by written form. After responding to the twenty (20) statements, the participants will be asked to rank their top five (5) responses in order to best describe themselves. The participants will then be given the Locus of Control instrument. The Locus of Control is presented as a twenty-seven (27) item closed-response instrument that is designed to portray participants' beliefs and general expectancy about the nature of the world. It does not measure preferences for external or internal control. Completion of the two instruments is expected to take between fifteen (15)

and thirty (30) minutes. The third step consisting of an interview that requires between thirty (30) minutes and one (1) hour. Because the questions are open-ended, participants will control the length of their answers. The researcher will attempt to investigate several broad areas and will encourage self-reflection. The interview will be refocused whenever if it appears to be wandering off-subject. The interview will then be transcribed and a copy forwarded to the participants for their review and editing. Participants will be asked to return copies of the transcript within two weeks of its receipt.

## 5.2 DESCRIBE HOW DATA WILL BE COLLECTED AND RECORDED:

*[Include all data documents (e.g., questionnaire, interview questions, etc.) with protocol]*

### Data Analysis

Two software packages, SPSS and NVivo, will be utilized to analyze collected data. SPSS will serve as the quantitative instrument and NVivo will be utilized as the qualitative resource.

The SPSS statistical package will assist in identifying significant relationships or associations between the Twenty Statements Test and the Locus of Control data. Data will be entered by identifying subgroups of participants. The subgroups will consist of (1) an individual with a stable and severe visual impairment; (2) an individual with a stable and minor visual impairment; (3) an individual with a progressive and severe visual impairment; and (4) an individual with a progressive but minor visual impairment. A value will be assigned to each subgroup in order to input data into the SPSS data base. A value of 1 will be given to subgroup (1). A value of 2 will be given to subgroup (2). A value of 3 will be given to subgroup (3), and a value of 4 will be given to subgroup (4). Next, information gained from the Twenty Statements Test will be sorted into positive and negative themes consistent with the research conducted by Roy & MacKay (2002). The thematic units will represent variables in the following: (1) information pertaining to person; (2) information pertaining to environment; (3) information pertaining to social interactions; and (4) information pertaining to level of disability.

Variables will be named and values assigned in order to run a correlation analysis between groups. The participants from this study will be compared to the data sample from Ohio State University (Rees & Nicholson, 1994), which is considered the largest available sample of college-age students with visual impairments. Information gathered from these students will help define what prospective visually-impaired students seek when they select a college or university.

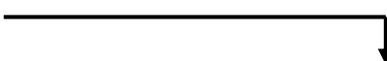
The correlation analysis will compare the two groups to determine if a significant relationship exists between the two data sets. The information gained from this analysis will provide a means for comparing the findings of Roy & MacKay.

NVivo software will be used to code themes drawn from the interviews. The NVivo software allows transcripts to be coded at the word, sentence, and paragraph levels as well as allowing for text to be coded multiple ways. Once coded, the data will be sorted for emerging themes. The themes will be arranged in a matrix design in order to determine consistency across participants, across severity of disability, as well as duration of education experience. The matrix of data will help identify if a relation exists between the number of years of schooling completed by the participants and their perceptions regarding campus social interactions and participation.

## 5.3 DOES THE PROJECT INVOLVE ONLINE RESEARCH ACTIVITIES (INCLUDES ENROLLMENT, RECRUITMENT, SURVEYS)?

View the "Policy for Online Research Data Collection Activities Involving Human Subjects" at <http://www.irb.vt.edu/documents/onlinepolicy.pdf>

- No, go to question 6.1  
 Yes, answer questions within table



## IF YES

### Identify the service / program that will be used:

- [www.survey.vt.edu](http://www.survey.vt.edu), go to question 6.1
- Blackboard, go to question 6.1
- Center for Survey Research, go to question 6.1
- Other

### IF OTHER:

Name of service / program:

URL:

This service is...

- Included on the list found at:  
<http://www.irb.vt.edu/pages/validated.htm>
- Approved by VT IT Security [*Include approval correspondence with protocol*]
- An external service with proper SSL or similar encryption (https://) on the login (if applicable) and all other data collection pages.
- None of the above (note: only permissible if this is a collaborative project in which VT individuals are only responsible for data analysis, consulting, or recruitment)

## Section 6: Risks and Benefits

### 6.1 WHAT ARE THE POTENTIAL RISKS (E.G., EMOTIONAL, PHYSICAL, SOCIAL, LEGAL, ECONOMIC, OR DIGNITY) TO STUDY PARTICIPANTS?

The risks to participants are minimal; Participants will be asked questions about how they chose to attend Virginia Tech or Radford, the process by which they identify extracurricular activities and how they integrate and participate socially. The two quantitative instruments collect their perceptions. At each step of the data collection process participants will be reminded that participation is voluntary and they can withdraw at anytime. The only possible side effects may be remembering an embarrassing incident. Because participants will be able to edit their responses they will be able control how much information they share.

### 6.2 EXPLAIN THE STUDY'S EFFORTS TO REDUCE POTENTIAL RISKS TO SUBJECTS:

All responses will be coded using a pseudonym. Participants will also be provided with a transcript of their interview at which time they will be able to edit, reword, or remove any material they feel uncomfortable sharing.

### 6.3 WHAT ARE THE DIRECT OR INDIRECT ANTICIPATED BENEFITS TO STUDY PARTICIPANTS AND/OR SOCIETY?

Information gathered from the research will provide valuable insights that should be useful for faculty and college administrators pursuant to the provision of support services for their students with visual impairments. Career and guidance counselors in the K-12 schools should be better able to assist their visually-impaired students identify colleges and universities that best fit their needs. The study may also provide a framework from which

additional research studies may be conducted. Social integration particularly among college students with visual impairments remains largely an understudied field.

## Section 7: Full Board Assessment

### 7.1 DOES THE RESEARCH INVOLVE MICROWAVES/X-RAYS, OR GENERAL ANESTHESIA OR SEDATION?

- No
- Yes

### 7.2 DO RESEARCH ACTIVITIES INVOLVE PRISONERS, PREGNANT WOMEN, FETUSES, HUMAN IN VITRO FERTILIZATION, OR MENTALLY DISABLED PERSONS?

- No, go to question 7.3
- Yes, answer questions within table 

IF YES	
<b>This research involves:</b>	
<input type="checkbox"/> Prisoners	<input type="checkbox"/> Pregnant women
<input type="checkbox"/> Fetuses	<input type="checkbox"/> Human in vitro fertilization
<input type="checkbox"/> Mentally disabled persons	

### 7.3 DOES THIS STUDY INVOLVE MORE THAN MINIMAL RISK TO STUDY PARTICIPANTS?

*Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily activities or during the performance of routine physical or psychological examinations or tests. Examples of research involving greater than minimal risk include collecting data about abuse or illegal activities. Note: if the project qualifies for Exempt review (<http://www.irb.vt.edu/pages/categories.htm>), it will not need to go to the Full Board.*

- No
- Yes

**IF YOU ANSWERED “YES” TO ANY ONE OF THE ABOVE QUESTIONS, 7.1, 7.2, OR 7.3, THE BOARD MAY REVIEW THE PROJECT’S APPLICATION MATERIALS AT ITS MONTHLY MEETING. VIEW THE FOLLOWING LINK FOR DEADLINES AND ADDITIONAL INFORMATION:**  
<http://www.irb.vt.edu/pages/deadlines.htm>

## Section 8: Confidentiality / Anonymity

For more information about confidentiality and anonymity visit the following link:  
<http://www.irb.vt.edu/pages/confidentiality.htm>

### 8.1 WILL PERSONALLY IDENTIFYING STUDY RESULTS OR DATA BE RELEASED TO ANYONE OUTSIDE OF THE RESEARCH TEAM?

For example – to the funding agency or outside data analyst, or participants identified in publications with individual consent

- No  
 Yes, to whom will identifying data be released?

## 8.2 WILL ANY STUDY FILES CONTAIN PARTICIPANT IDENTIFYING INFORMATION (E.G., NAME, CONTACT INFORMATION, VIDEO/AUDIO RECORDINGS)?

Note: if collecting signatures on a consent form, select “Yes.”

- No, go to question 8.3  
 Yes, answer questions within table

IF YES
<b>Describe if/how the study will utilize study codes: To assist in maintaining confidentiality participants will be asked to choose an alias when they complete the initial data instrument. On all subsequent interactions the participant will be addressed by the alias. The data instrument with the student’s name and alias will be housed in a locked file cabinet in a separate location from the data collection instruments. After the research has been conducted, interpreted, and analyzed, all instruments and files containing demographic and personal information will be destroyed.</b>
<b>If applicable, where will the key [i.e., linked code and identifying information document (for instance, John Doe = study ID 001)] be stored and who will have access? The key will be kept in a locked file drawer at the residence of the researcher, Patrick Johnson.</b>  <i>Note: the key should be stored separately from subjects’ completed data documents and accessibility should be limited.</i>
<i>The IRB strongly suggests and may require that all data documents (e.g., questionnaire responses, interview responses, etc.) do not include or request identifying information (e.g., name, contact information, etc.) from participants. If you need to link subjects’ identifying information to subjects’ data documents, use a study ID/code on all data documents.</i>

## 8.3 WHERE WILL DATA BE STORED?

Examples of data - questionnaire, interview responses, downloaded online survey data, observation recordings, biological samples

**Data will be stored at my personal residence at 3478 Tyler Road, Christiansburg, VA 24073 in a locked file cabinet and on a password protected computer.**

## 8.4 WHO WILL HAVE ACCESS TO STUDY DATA?

**Patrick Johnson, Dr. Richard Salmon, and Dr. Toni Elitharp**

## 8.5 DESCRIBE THE PLANS FOR RETAINING OR DESTROYING THE STUDY DATA

**Data will be stored in locked file cabinets at my residence. Access to the data will be limited to myself (Patrick Johnson) and my chair and co-chair (Dr. Salmon and Dr. Elitharp). Audio tapes will be kept for a period of one (1) year after the interview takes place. After the**

**year is up the audio tapes will be erased and disassembled. All paper tests and interview notes will be shredded and burned after a period of five (5) years.**

**8.6 DOES THIS STUDY REQUEST INFORMATION FROM PARTICIPANTS REGARDING ILLEGAL BEHAVIOR?**

- No**, go to question 9.1
- Yes**, answer questions within table 

IF YES
<p><b>Does the study plan to obtain a Certificate of Confidentiality?</b></p> <ul style="list-style-type: none"><li><input type="checkbox"/> No</li><li><input type="checkbox"/> Yes (Note: participants must be fully informed of the conditions of the Certificate of Confidentiality within the consent process and form)</li></ul> <p><i>For more information about Certificates of Confidentiality, visit the following link:</i> <a href="http://www.irb.vt.edu/pages/coc.htm">http://www.irb.vt.edu/pages/coc.htm</a></p>

**Section 9: Compensation**

For more information about compensating subjects, visit the following link:  
<http://www.irb.vt.edu/pages/compensation.htm>

**9.1 WILL SUBJECTS BE COMPENSATED FOR THEIR PARTICIPATION?**

- No**, go to question 10.1
- Yes**, answer questions within table 

IF YES
<p><b>What is the amount of compensation?</b></p>
<p><b>Will compensation be prorated?</b></p> <ul style="list-style-type: none"><li><input type="checkbox"/> Yes, please describe:</li><li><input type="checkbox"/> No, explain why and clarify whether subjects will receive full compensation if they withdraw from the study?</li></ul> <p><i>Unless justified by the researcher, compensation should be prorated based on duration of study participation. Payment must <u>not</u> be contingent upon completion of study procedures. In other words, even if the subject decides to withdraw from the study, he/she should be compensated, at least partially, based on what study procedures he/she has completed.</i></p>

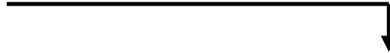
**Section 10: Audio / Video Recording**

For more information about audio/video recording participants, visit the following link:  
<http://www.irb.vt.edu/pages/recordings.htm>

### 10.1 WILL YOUR STUDY INVOLVE VIDEO AND/OR AUDIO RECORDING?

No, go to question 11.1

Yes, answer questions within table



IF YES	
<b>This project involves:</b>	
<input checked="" type="checkbox"/> Audio recordings only	
<input type="checkbox"/> Video recordings only	
<input type="checkbox"/> Both video and audio recordings	
<b>Provide compelling justification for the use of audio/video recording:</b>	<b>An essential part of the study is the semi-structured interview conducted by the researcher. The participants will be engaged in a dialogue about the challenges facing visually-impaired college students and how they identify, integrate, and participate in extra-curricular and social events outside the classroom. The interviews will be audio-taped in order to collect accurate transcripts while maintaining a continuous flow of information essential for qualitative research.</b>
<b>How will data within the recordings be retrieved / transcribed?</b>	<b>Audio tapes will be transcribed by BTS Transcription, a local company specializing in medical transcription. All information will be treated as if they were medical records and the company is bound under the Health Information Protection Act (HIPA) regulations covering the disclosure of medical information. Only the researcher, Patrick Johnson, major professors, and authorized agents of BTS Transcription, will have access to the audio recordings and transcripts.</b>
<b>How and where will recordings (e.g., tapes, digital data, data backups) be stored to ensure security?</b>	<b>In a locked file cabinet in the residence of Patrick Johnson.</b>
<b>Who will have access to the recordings?</b>	<b>Patrick Johnson, Dr. Richard Salmon, Dr. Toni Elitharp</b>
<b>Who will transcribe the recordings?</b>	<b>See above.</b>
<b>When will the recordings be erased / destroyed?</b>	<b>See above.</b>

## Section 11: Research Involving Students

### 11.1 DOES THIS PROJECT INCLUDE STUDENTS AS PARTICIPANTS?

No, go to question 12.1

Yes, answer questions within table



IF YES
<p><b>Does this study involve conducting research with students of the researcher?</b></p> <p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, describe safeguards the study will implement to protect against coercion or undue influence for participation:</p> <p><i>Note: if it is feasible to use students from a class of students not under the instruction of the researcher, the IRB recommends and may require doing so.</i></p>
<p><b>Will the study need to access student records (e.g., SAT, GPA, or GRE scores)?</b></p> <p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <i>[Include release consent / assent / permission form(s) with this application]</i></p>

**11.2 DOES THIS PROJECT INCLUDE ELEMENTARY, JUNIOR, OR HIGH SCHOOL STUDENTS?**

- No, go to question 11.3
- Yes, answer questions within table



IF YES
<p><b>Will study procedures be completed during school hours?</b></p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes</p> <p><b>If yes,</b></p> <p><b>Students not included in the study may view other students' involvement with the research during school time as unfair. Address this issue and how the study will reduce this outcome:</b></p> <p><b>Missing out on regular class time or seeing other students participate may influence a student's decision to participate. Address how the study will reduce this outcome:</b></p>
<p><b>Is the school's approval letter(s) attached to this submission?</b></p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No, project involves Montgomery County Public Schools (MCPS)</p> <p><input type="checkbox"/> No, explain why:</p> <p><i>You will need to obtain school approval (if involving MCPS, click here: <a href="http://www.irb.vt.edu/pages/mcps.htm">http://www.irb.vt.edu/pages/mcps.htm</a>). Approval is typically granted by the superintendent, principal, and classroom teacher (in that order). Approval by an individual teacher is insufficient. School approval, in the form of a letter or a memorandum should accompany the approval request to the IRB.</i></p>

**11.3 DOES THIS PROJECT INCLUDE COLLEGE STUDENTS?**

- No, go to question 12.1
- Yes, answer questions within table



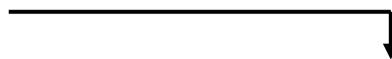
IF YES
<p><b>Some college students might be minors. Indicate whether these minors will be included in the research or actively excluded:</b></p> <p><input checked="" type="checkbox"/> Included</p> <p><input type="checkbox"/> Actively excluded, describe how the study will ensure that minors will not be included:</p>
<p><b>Will extra credit be offered to subjects?</b></p> <p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes</p> <p><b>If yes,</b></p> <p style="text-align: center;"><b>What will be offered to subjects as an equal alternative to receiving extra credit without participating in this study?</b></p> <p style="text-align: center;"><b>Include a description of the extra credit (e.g., amount) to be provided within question 9.1 ("IF YES" table)</b></p>

## Section 12: Research Involving Minors

### 12.1 DOES THIS PROJECT INVOLVE MINORS (UNDER THE AGE OF 18 IN VIRGINIA)?

*Note: age constituting a minor may differ in other States.*

- No**, go to question 13.1
- Yes**, answer questions within table



IF YES
<p><b>Does the project reasonably pose a risk of reports of current threats of abuse and/or suicide?</b></p> <p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, thoroughly explain how the study will react to such reports:</p> <p><i>Note: subjects and parents must be fully informed of the fact that researchers must report threats of suicide or suspected/reported abuse to the appropriate authorities within the Confidentiality section of the Consent, Assent, and/or Permission documents.</i></p>
<p><b>Are you requesting a waiver of parental permission (i.e., parent uninformed of child's involvement)?</b></p> <p><input type="checkbox"/> No, <b>both</b> parents/guardians will provide their permission, if possible.</p> <p><input checked="" type="checkbox"/> No, <b>only one</b> parent/guardian will provide permission.</p> <p><input type="checkbox"/> Yes, describe below how your research meets <b>all</b> of the following criteria (A-D):</p> <p style="padding-left: 40px;">Criteria A - The research involves no more than minimal risk to the subjects:</p> <p style="padding-left: 40px;">Criteria B - The waiver will not adversely affect the rights and welfare of the subjects:</p>

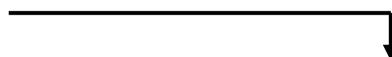
<p>Criteria C - The research could not practicably be carried out without the waiver:</p> <p>Criteria D - (Optional) Parents will be provided with additional pertinent information after participation:</p>
<p><b>Is it possible that minor research participants will reach the legal age of consent (18 in Virginia) while enrolled in this study?</b></p> <p><input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes, will the investigators seek and obtain the legally effective informed consent (in place of the minors' previously provided assent and parents' permission) for the now-adult subjects for any ongoing interactions with the subjects, or analysis of subjects' data? If yes, explain how: <b>At the time of the verbal interviews segment of the study, verbal consent will be obtained from all participants regardless of age.</b></p> <p><i>For more information about minors reaching legal age during enrollment, visit the following link: <a href="http://www.irb.vt.edu/pages/assent.htm">http://www.irb.vt.edu/pages/assent.htm</a></i></p> <p><i>The procedure for obtaining assent from minors and permission from the minor's guardian(s) must be described in <b>Section 4</b> (Consent Process) of this form.</i></p>

## Section 13: Research Involving Deception

For more information about involving deception in research and for assistance with developing your debriefing form, visit our website at <http://www.irb.vt.edu/pages/deception.htm>

### 13.1 DOES THIS PROJECT INVOLVE DECEPTION?

- No**, go to question 14.1
- Yes**, answer questions within table



IF YES
<b>Describe the deception:</b>
<b>Why is the use of deception necessary for this project?</b>
<b>Describe the debriefing process:</b>
<i>[Include debriefing form with this application]</i>
<b>Provide an explanation of how the study meets <u>all</u> the following criteria (A-D) for an alteration of consent:</b>
Criteria A - The research involves no more than minimal risk to the subjects:
Criteria B - The alteration will not adversely affect the rights and welfare of the subjects:
Criteria C - The research could not practicably be carried out without the alteration:
Criteria D - (Optional) Subjects will be provided with additional pertinent information

after participation (i.e., debriefing for studies involving deception):

*By nature, studies involving deception cannot provide subjects with a complete description of the study during the consent process; therefore, the IRB must allow (by granting an alteration of consent) a consent process which does not include, or which alters, some or all of the elements of informed consent.*

*The IRB requests that the researcher use the title "Information Sheet" instead of "Consent Form" on the document used to obtain subjects' signatures to participate in the research. This will adequately reflect the fact that the subject cannot fully consent to the research without the researcher fully disclosing the true intent of the research.*

## Section 14: Research Involving Existing Data

### 14.1 WILL THIS PROJECT INVOLVE THE COLLECTION OR STUDY/ANALYSIS OF EXISTING DATA DOCUMENTS, RECORDS, PATHOLOGICAL SPECIMENS, OR DIAGNOSTIC SPECIMENS?

*Please note: it is not considered existing data if a researcher transfers to Virginia Tech from another institution and will be conducting data analysis of an on-going study.*

- No**, you are finished with the application  
 **Yes**, answer questions within table



IF YES	
<b>From where does the existing data originate?</b>	
<b>Provide a detailed description of the existing data that will be collected or studied/analyzed:</b>	
<b>Is the source of the data public?</b> <input type="checkbox"/> No, continue with the next question <input type="checkbox"/> Yes, you are finished with this application	
<b>Will any individual associated with this project (internal or external) have access to or be provided with existing data containing information which would enable the identification of subjects:</b> <ul style="list-style-type: none"><li>▪ <b>Directly</b> (e.g., by name, phone number, address, email address, social security number, student ID number), or</li><li>▪ <b>Indirectly through study codes</b> even if the researcher or research team does not have access to the master list linking study codes to identifiable information such as name, student ID number, etc or</li><li>▪ <b>Indirectly through the use of information that could reasonably be used in combination to identify an individual</b> (e.g., demographics)</li></ul> <input type="checkbox"/> No, collected/analyzed data will be completely de-identified <input type="checkbox"/> Yes, <b>If yes,</b>	

*Research will not qualify for exempt review; therefore, if feasible, written consent must be obtained from individuals whose data will be collected / analyzed, unless this requirement is waived by the IRB.*

**Will written/signed or verbal consent be obtained from participants prior to the analysis of collected data? -select one-**

***This research protocol represents a contract between all research personnel associated with the project, the University, and federal government; therefore, must be followed accordingly and kept current.***

***Proposed modifications must be approved by the IRB prior to implementation except where necessary to eliminate apparent immediate hazards to the human subjects.***

***Do not begin human subjects activities until you receive an IRB approval letter via email.***

**-----END-----**

**Main Identity**

---

**From:** "researchIRB-resc" <researchIRB-resc@exchange.vt.edu>  
**To:** <rgsalmon@vt.edu>; <pajohns1@vt.edu>; <telithar@vt.edu>  
**Sent:** Monday, November 17, 2008 3:42 PM  
**Attach:** approval letter.pdf; CF.pdf  
**Subject:** IRB approval letter 08-706

Dear Investigators:

Please see attached approval letter for your recently submitted IRB application. Retain a copy of this approval letter for your records.

Only the attached IRB-validated consent form(s) may be used to document participants' informed consent for this project.

Study documents and procedures are subject to audit. Failure to use IRB-approved documents and procedures may result in sanctions to include suspension or termination of the protocol. Retain signed/dated copies of consent forms in a secure location for a minimum of three years upon completion of the project.

Visit the following link to request an amendment to approved IRB application materials, and report unanticipated problems: <http://www.irb.vt.edu/pages/researchers.htm>

The IRB wishes you success in your research endeavors.

Sincerely,

Brandi Evans  
IRB Senior Assistant

Virginia Tech  
Office of Research Compliance  
2000 Kraft Drive, Suite 2000 (0497)  
Blacksburg, VA 24060  
Phone: (540) 231-4606  
Fax: (540) 231-0959  
<http://www.irb.vt.edu>  
Bmdilday@vt.edu

4/29/2009



## Virginia Tech News

### Campus Notice

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#### Call for study participants, students with visual impairments

From: Services for Students with Disabilities Office, Patrick Johnson

A graduate student researcher in Educational Leadership and Policy Studies, Virginia Tech, is seeking visually-impaired undergraduate and graduate college students to participate in a study that examines their perceptions of social integration in higher education.

Participants will be asked to provide demographic and personal data, complete two questionnaires and participate in an interview. For more information please contact Patrick Johnson at [pajohns1@vt.edu](mailto:pajohns1@vt.edu) or visit the Services for Students with Disabilities Office at Suite 300, the Kent Square Building, 250 South Main St. to pick up an information packet.

[More Campus Notices](#)



## Institutional Review Board Amendment Request Form

**INSTRUCTIONS:** Email completed form and all revised and/or new study documents to [irb@vt.edu](mailto:irb@vt.edu) (PDFs preferred).

*Note: The project's IRB-approved Research Protocol (previously entitled Initial Review Application) must be kept current and followed throughout the life of the project. It is advised that it be reviewed prior to the submission of an amendment request to ensure all changes are reflected. All study documents are subject to audit.*

### 1. IRB NUMBER:

08-706

### 2. PROJECT TITLE:

**Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study of Current Students at a Land-Grant and Regionally-Known University in Western Virginia**

### 3. PRINCIPAL INVESTIGATOR

Name:

Richard G. Salmon

Email address:

rgsalmon@vt.edu <rgsalmon@vt.edu>

### 4. REQUESTING AMENDMENT TO:

- Research Protocol (or Initial Review Application)
- Consent form
- Recruitment materials
- Data document (e.g., survey instrument, interview questions)
- Research personnel
- Other

### 5. DESCRIBE THE AMENDMENT BEING REQUESTED:

*Note: with each requested change, provide a detailed description of where within the study documents (e.g., Research Protocol, survey instrument, etc.) the changes are reflected (e.g., page number, question #, etc.)*

**To increase awareness of the study I am requesting to post the call for participants to the VT News site. With the small number of blind and visually impaired students registered with the Disabled Student Services Office it is essential to spread word of the study on all venues study participants are likely to look for their news.**

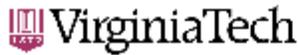
### 6. HAVE THESE REQUESTED CHANGES BEEN INITIATED?

- No
- Yes, why were these changes initiated prior to being approved (see bottom of page)?

## **7. HOW WILL THE PROPOSED AMENDMENT AFFECT STUDY PARTICIPANTS?**

**There will be no change in the study itself. The only change will occur in adding an additional venue for recruiting study participants.**

Appendix P: IRB Amendment Approval Notification



Office of Research Compliance  
Institutional Review Board  
2000 Kraft Drive, Suite 2000 (0497)  
Blacksburg, Virginia 24061  
540/231-4991 Fax 540/231-0959  
e-mail moored@vt.edu  
www.irb.vt.edu

PVA00000572 (expires 1/20/2010)  
IRB # is IRB00000687

DATE: March 19, 2009

MEMORANDUM

TO: Richard G. Salmon  
Patrick Johnson  
Toni Elitharp

Approval date: 11/17/2008  
Continuing Review Due Date: 11/2/2009  
Expiration Date: 11/18/2009

FROM: David M. Moore 

SUBJECT: **IRB Amendment 1 Approval:** "Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study of Current Students at a Land-Grant and Regionally-Known University in Western Virginia" , IRB # 08-708

This memo is regarding the above referenced protocol which was previously granted approval by the IRB on November 17, 2008. You subsequently requested permission to amend your IRB application. Since the requested amendment is nonsubstantive in nature, I, as Chair of the Virginia Tech Institutional Review Board, have granted approval for requested protocol amendment, effective as of March 19, 2009. The anniversary date will remain the same as the original approval date.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.
3. Report promptly to the IRB of the study's closing (i.e., data collecting and data analysis complete at Virginia Tech). If the study is to continue past the expiration date (listed above), investigators must submit a request for continuing review prior to the continuing review due date (listed above). It is the researcher's responsibility to obtain re-approval from the IRB before the study's expiration date.
4. If re-approval is not obtained (unless the study has been reported to the IRB as closed) prior to the expiration date, all activities involving human subjects and data analysis must cease immediately, except where necessary to eliminate apparent immediate hazards to the subjects.

cc: File

*Invent the Future*

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*An equal opportunity, affirmative action institution*

## Appendix Q: Sample Letter to Virginia Tech College & School Deans

Dear Dean <insert name>;

I found your contact information while looking at the <insert college name> web page at <insert web address> in my search for the appropriate contact for my request.

My name is Patrick Johnson. I am a doctoral candidate of Dr. Richard Salmon in the Educational Leadership & Policy Studies/Special Education Administration program in East Eggleston. For my study titled "Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study of Current Students at a Land-Grant and Regionally-Known University in Western Virginia" (a study approved by the Virginia Tech IRB) I am trying to recruit visually-impaired graduate and undergraduate students by spreading word of the study through as many venues as possible. Calls for participation are currently appearing on the VT News site and in the GLC events and SSD (for students registered with the Disability Services Office) mailing lists. This year five (5) blind and visually-impaired students are registered with the Disability Services Office. According to research I have collected on blind and visually-impaired students nationally many students either never or only occasionally register with their school's Disability Services Office. As such I am trying to reach the students who either ignore messages from the SSD list or are not registered and are not receiving messages from the SSD list. As such I am writing you today to ask you to consider sending out the following message to the <insert college abbreviation> student list(s), or direct me to whom I should submit my request.

Also would it be possible to get a CC or BCC of the e-mail for my records?

Thank you for considering my request,

Patrick Johnson  
540-633-1318

### Call for Study Participants: Students with Visual Impairments

A graduate student researcher in Educational Leadership and Policy Studies, Virginia Tech, is seeking visually-impaired undergraduate and graduate college students to participate in a study that examines their perceptions of social integration in higher education. Participants will be asked to provide demographic and personal data, complete two questionnaires and participate in an interview. For more information please contact Patrick Johnson at [pajohns1@vt.edu](mailto:pajohns1@vt.edu) or visit the Services for Students with Disabilities Office at Suite 300, the Kent Square Building, 250 South Main St. to pick up an information packet.

## Appendix R: Sample Letter to Radford University School Deans

Dear <insert name>:

I found your contact information while looking at the <insert college name> web page at <insert web address> in my search for the appropriate contact for my request.

My name is Patrick Johnson, I am a doctoral candidate of Dr. Richard Salmon ([rgsalmon@vt.edu](mailto:rgsalmon@vt.edu), 540-231-9711) in the Educational Leadership & Policy Studies/Special Education Administration program at Virginia Tech. For my study titled "Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study of Current Students at a Land-Grant and Regionally-Known University in Western Virginia" (a study approved by the Virginia Tech IRB) I am trying to recruit visually-impaired graduate and undergraduate students by spreading word of the study through as many venues as possible. An announcement of the study has been posted to the Students with Disabilities mailing list This year five (5) blind and visually-impaired students are registered with the Disability Services Office. According to research I have collected on blind and visually-impaired students nationally many students either never or only occasionally register with their school's Disability Services Office. As such I am trying to reach the students who either ignore messages from the SSD list or are not registered and are not receiving messages from the SSD list. As such I am writing you today to ask you to consider sending out the following message to the <insert college name> student list(s), or direct me to whom I should submit my request.

Also would it be possible to get a CC or BCC of the e-mail for my records?

Thank you for considering my request,

Patrick Johnson  
[pajohns1@vt.edu](mailto:pajohns1@vt.edu)  
540-633-1318

### Call for Study Participants: Students with Visual Impairments

A graduate student researcher in Educational Leadership and Policy Studies, Virginia Tech, is seeking visually-impaired undergraduate and graduate college students to participate in a study that examines their perceptions of social integration in higher education. Participants will be asked to provide demographic and personal data, complete two questionnaires and participate in an interview. For more information, please contact Patrick Johnson at [pajohns1@vt.edu](mailto:pajohns1@vt.edu) or visit the Disability Resource Office on the lower level of Tyler Hall.

## Appendix S: Second Call for Participation

### Call for Participation: Students with Visual Impairments

Dear Fellow Students,

The post-Spring Break crunch is upon us and we all have a dozen assignments with impossible deadlines. I know how it feels as I've been a grad student for more years than I care to count. With that in mind please consider helping me finish my last project as a grad student by participating in a study I am conducting for my dissertation. My study examines how blind and visually-impaired students identify, navigate to, and participate in extracurricular activities, and what role if any one's visual-impairment plays in the process. Participation involves completing a basic data sheet, two quick surveys and a short interview, total time commitment 45 minutes to an hour. After the interview I'll give you a copy of the transcript for you to read, review, and edit any of your answers. I promise complete confidentiality, no one will be able to identify you from my study. We can even conduct the interview over the phone so we never have to meet face to face.

I am conducting this study because I feel it is important to find out how blind and visually impaired students learn when not in the classroom. With this information I hope to inform the powers that be on how to eliminate barriers and increase accessibility on this great campus. Mark Twain said something to the effect of "Never let your schooling interfere with your education," I prefer to think "never let the campus be a barrier to your education". If I can count on your assistance in completing my study please pick up a recruitment packet at the Disability Resource Office or contact me via e-mail at [pajohns1@vt.edu](mailto:pajohns1@vt.edu).

Thank you for your help,

Patrick Johnson  
[pajohns1@vt.edu](mailto:pajohns1@vt.edu)



## Institutional Review Board Amendment Request Form

**INSTRUCTIONS:** Email completed form and all revised and/or new study documents to [irb@vt.edu](mailto:irb@vt.edu) (PDFs preferred).

*Note: The project's IRB-approved Research Protocol (previously entitled Initial Review Application) must be kept current and followed throughout the life of the project. It is advised that it be reviewed prior to the submission of an amendment request to ensure all changes are reflected. All study documents are subject to audit.*

### 1. IRB NUMBER:

08-706

### 2. PROJECT TITLE:

**Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study of Current Students at a Land-Grant and Regionally-Known University in Western Virginia**

### 3. PRINCIPAL INVESTIGATOR

Name:

**Richard G. Salmon**

Email address:

**rgsalmon@vt.edu <rgsalmon@vt.edu>**

### 4. REQUESTING AMENDMENT TO:

- Research Protocol (or Initial Review Application)
- Consent form
- Recruitment materials
- Data document (e.g., survey instrument, interview questions)
- Research personnel
- Other

### 5. DESCRIBE THE AMENDMENT BEING REQUESTED:

*Note: with each requested change, provide a detailed description of where within the study documents (e.g., Research Protocol, survey instrument, etc.) the changes are reflected (e.g., page number, question #, etc.)*

**To increase awareness of the study, and due to a lack of participants I am requesting a second call for participation be sent out to various student lists. The second call (see text below) restates the purpose of the study and goes into greater detail about what is involved in participation. No changes will be made to the the study protocol beyond the new call for participation.**

**Dear Fellow Students,**

**The post-Spring Break crunch is upon us and we all have a dozen assignments with impossible deadlines. I know how it feels as I've been a grad student for more years than I care to count. With that in mind please consider helping me finish my last project as a grad student by participating in a study I am conducting for my dissertation. My study examines**

how blind and visually-impaired students identify, navigate to, and participate in extracurricular activities, and what role if any one's visual-impairment plays in the process. Participation involves completing a basic data sheet, two quick surveys and a short interview, total time commitment 45 minutes to an hour. After the interview I'll give you a copy of the transcript for you to read, review, and edit any of your answers. I promise complete confidentiality, no one will be able to identify you from my study. We can even conduct the interview over the phone so we never have to meet face to face.

I am conducting this study because I feel it is important to find out how blind and visually impaired students learn when not in the classroom. With this information I hope to inform the powers that be on how to eliminate barriers and increase accessibility on this great campus. Mark Twain said something to the effect of "Never let your schooling interfere with your education," I prefer to think "never let the campus be a barrier to your education". If I can count on your assistance in completing my study please either pick up a recruitment packet at the Disability Resource Office or contact me via e-mail at pajohns1@vt.edu .

Thank you for your help,

Patrick Johnson  
pajohns1@vt.edu

**6. HAVE THESE REQUESTED CHANGES BEEN INITIATED?**

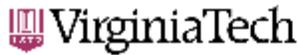
No

Yes, why were these changes initiated prior to being approved (see bottom of page)?

**7. HOW WILL THE PROPOSED AMENDMENT AFFECT STUDY PARTICIPANTS?**

There will be no change in the study itself. The only change will occur in adding an additional call for participation in the study.

Appendix U: IRB Amendment Approval Second Call for Participation



Office of Research Compliance  
Institutional Review Board  
2000 Kraft Drive, Suite 2000 (0497)  
Blacksburg, Virginia 24061  
540/231-4991 Fax 540/231-0959  
e-mail moored@vt.edu  
www.irb.vt.edu

PVA00000572 (expires 1/20/2010)  
IRB # is IRB00000687

DATE: April 8, 2009

MEMORANDUM

TO: Richard G. Salmon  
Patrick Johnson  
Toni Elitharp

Approval date: 11/17/2008  
Continuing Review Due Date: 11/2/2009  
Expiration Date: 11/16/2009

FROM: David M. Moore 

SUBJECT: IRB Amendment 2 Approval: "Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study of Current Students at a Land-Grant and Regionally-Known University in Western Virginia", IRB # 08-708

This memo is regarding the above referenced protocol which was previously granted approval by the IRB on November 17, 2008. You subsequently requested permission to amend your IRB application. Since the requested amendment is nonsubstantive in nature, I, as Chair of the Virginia Tech Institutional Review Board, have granted approval for requested protocol amendment, effective as of April 8, 2009. The anniversary date will remain the same as the original approval date.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.
3. Report promptly to the IRB of the study's closing (i.e., data collecting and data analysis complete at Virginia Tech). If the study is to continue past the expiration date (listed above), investigators must submit a request for continuing review prior to the continuing review due date (listed above). It is the researcher's responsibility to obtain re-approval from the IRB before the study's expiration date.
4. If re-approval is not obtained (unless the study has been reported to the IRB as closed) prior to the expiration date, all activities involving human subjects and data analysis must cease immediately, except where necessary to eliminate apparent immediate hazards to the subjects.

cc: File

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## Appendix V: Expanded Participant Pool Discussion

Expanding the pool to include a larger number of disabilities was rejected on the basis of to do so would significantly change the scope and purpose of the study. The literature review (see chapter two) also focused strictly on issues specific to the visually-impaired and broadening the pool to include multiple disabilities would require a significant rewrite of the chapter. The idea of a multi-disability variant of my study is discussed further in chapter five.

Increasing the participant pool to recent graduates, defined as students graduating within the past five years did receive strong consideration. To explore the viability of this option the directors of both disability services offices were approached to see if they were in contact with any recent graduates and to pose to the students the idea of participating in the study. It was clearly expressed that this was only an inquiry and that IRB approval had not yet been sought, much less granted. Both Directors said they would contact recent graduates to gauge interest. Neither inquiry resulted in any interest. Also an inquiry was posted to the NRV vibe list on Yahoo Groups a recently created group designed to bring together blind and visually-impaired people living and/or working in the New River Valley. Again no interest could be generated.

The third option of expanding the study to include visually-impaired students attending any four year college or university in Virginia had the advantage of my longtime participation in several organizations with potential study participants as members. The three groups, the American Council of the Blind (ACB) and National Federation of the Blind (NFB) both have student affiliates named the National Alliance of Blind Students (NABS), the NFB also has a state affiliate group, the Virginia Alliance of Blind Students (VABS). A general inquiry about the interest in participating in a study of social integration on campus was posted to the three

groups. Three students, two from the ACB group and one from the VABS group expressed initial interest.

I followed up with two of the students, one from each group outlining the scope of the study and reiterating that this was a preliminary inquiry only and IRB approval would need to be sought and granted prior to any formal discussion of the study. The third respondent was rejected on the basis of being a community college student.

Appendix W: IRB Amendment form for Off-Campus Study Participant Recruitment



Institutional Review Board  
Amendment Request Form

**INSTRUCTIONS:** Email completed form and all revised and/or new study documents to [irb@vt.edu](mailto:irb@vt.edu) (PDFs preferred).

*Note: The project's IRB-approved Research Protocol (previously entitled Initial Review Application) must be kept current and followed throughout the life of the project. It is advised that it be reviewed prior to the submission of an amendment request to ensure all changes are reflected. All study documents are subject to audit.*

**1. IRB NUMBER:**

08-706

**2. PROJECT TITLE:**

Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study of Current Students at a Land-Grant and Regionally-Known University in Western Virginia

**3. PRINCIPAL INVESTIGATOR**

Name: Richard G. Salmon	Email address: rgsalmon@vt.edu <rgsalmon@vt.edu>
----------------------------	---

**4. REQUESTING AMENDMENT TO:**

- Research Protocol (or Initial Review Application)
- Consent form
- Recruitment materials
- Data document (e.g., survey instrument, interview questions)
- Research personnel
- Other

**5. DESCRIBE THE AMENDMENT BEING REQUESTED:**

*Note: with each requested change, provide a detailed description of where within the study documents (e.g., Research Protocol, survey instrument, etc.) the changes are reflected (e.g., page number, question #, etc.)*

To increase awareness of the study, and due to a lack of participants I am requesting permission to expand the participant pool to include students attending four-year colleges and universities in the Commonwealth of Virginia and to recruit these students by posting calls for participation on the American Council for the Blind (ACB), National Federation of the Blind (NFB), and the NFB of Virginia mailing lists. The integrity of the study remains intact since only a minor modification will need to be made to existing recruitment documents.  
In Appendix F: Student Information Questionnaire  
Name of College or University you attend:  
Will replace the question  
Are you a student at: Virginia Tech Radford University  
No other changes to the protocol are required to accommodate the expanded participant pool.

**6. HAVE THESE REQUESTED CHANGES BEEN INITIATED?**

- No
- Yes, why were these changes initiated prior to being approved (see bottom of page)?

*Federal regulations require IRB approval prior to changing a research procedure or deviating from IRB-approved documents unless it is in the best interest of or for the safety of study participants.*

Appendix X: Supplemental Requested Data for IRB Amendment



Email completed form and all applicable supporting documents (see, <http://www.irb.vt.edu/pages/researchers.htm#supporting>) to [irb@vt.edu](mailto:irb@vt.edu) (PDFs preferred). Copy all investigators listed on the application.

**Section 1: Project Information**

**1.1 PROJECT TITLE:**

Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study of Current Students at a Land-Grant and Regionally-Known University in Western Virginia

**1.2 PRINCIPAL INVESTIGATOR** (Virginia Tech faculty only)

Name: <b>Richard Salmon</b>	Virginia Tech department: <b>ELPS</b>
Email address: <b>rgsalmon@vt.edu</b>	VT PID: <b>Rgsalmon</b>
Human subject protections training (required, see <a href="http://www.irb.vt.edu/pages/training.htm">http://www.irb.vt.edu/pages/training.htm</a> ) completed through: <input checked="" type="checkbox"/> VT IRB Training <input type="checkbox"/> Other, certificate is attached <input type="checkbox"/> Other, training is on file with IRB office	

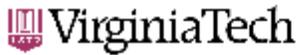
**1.3 CO-INVESTIGATORS** (Include any individual responsible for the design and conduct of the study, or who will use data for publication purposes. Attach separate pages as necessary.)

Name: <b>Patrick M. Johnson</b>	
Email address: <b>pajohns1@vt.edu</b>	VT PID -or- organization name if non-VT employee or agent: <b>Special Education Admin/ELPS</b>
Human subject protections training (required) completed through: <input checked="" type="checkbox"/> VT IRB Training <input type="checkbox"/> Other, certificate is attached <input type="checkbox"/> Other, training is on file with IRB office	

Name: <b>Toni Elitharp</b>	
Email address: <b>telitharp@pcva.us</b>	VT PID -or- organization name if non-VT employee or agent: <b>elitharp</b>
Human subject protections training (required) completed through: <input checked="" type="checkbox"/> VT IRB Training <input type="checkbox"/> Other, certificate is attached <input type="checkbox"/> Other, training is on file with IRB office	

Name:	
Email address:	VT PID -or- organization name if non-VT

Appendix Y: IRB Amendment Approval Letter



Office of Research Compliance  
Institutional Review Board  
2000 Kraft Drive, Suite 2000 (0497)  
Blacksburg, Virginia 24061  
540/231-4991 Fax 540/231-0959  
e-mail moored@vt.edu  
www.irb.vt.edu

PVA00000572 (expires 1/20/2010)  
IRB # is IRB00000687

DATE: April 24, 2009

MEMORANDUM

TO: Richard G. Salmon  
Patrick Johnson  
Toni Elitharp

Approval date: 11/17/2008  
Continuing Review Due Date: 11/2/2009  
Expiration Date: 11/16/2009

FROM: David M. Moore 

SUBJECT: IRB Amendment 3 Approval: "Social Accessibility for Students with Visual-Impairments: A Mixed-Methodological Study of Current Students at a Land-Grant and Regionally-Known University in Western Virginia", IRB # 08-708

This memo is regarding the above referenced protocol which was previously granted approval by the IRB on November 17, 2008. You subsequently requested permission to amend your IRB application. Since the requested amendment is nonsubstantive in nature, I, as Chair of the Virginia Tech Institutional Review Board, have granted approval for requested protocol amendment, effective as of April 24, 2009. The anniversary date will remain the same as the original approval date.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.
3. Report promptly to the IRB of the study's closing (i.e., data collecting and data analysis complete at Virginia Tech). If the study is to continue past the expiration date (listed above), investigators must submit a request for continuing review prior to the continuing review due date (listed above). It is the researcher's responsibility to obtain re-approval from the IRB before the study's expiration date.
4. If re-approval is not obtained (unless the study has been reported to the IRB as closed) prior to the expiration date, all activities involving human subjects and data analysis must cease immediately, except where necessary to eliminate apparent immediate hazards to the subjects.

cc: File

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## Appendix Z: Off-Campus Call for Participation

### Call for Participation: Students with Visual Impairments

Dear Fellow Students,

The semester is nearing an end and we all have a dozen assignments with impossible deadlines. I know how it feels as I've been a grad student for more years than I care to count. With that in mind please consider helping me finish my last project as a grad student by participating in a study I am conducting for my dissertation. My study examines how blind and visually-impaired students identify, navigate to, and participate in extracurricular activities, and what role if any one's visual-impairment plays in the process. Participation involves completing a basic data sheet, two quick surveys and a short interview, total time commitment 45 minutes to an hour. After the interview I'll give you a copy of the transcript for you to read, review, and edit any of your answers. I promise complete confidentiality, no one will be able to identify you from my study. We can even conduct the interview over the phone so we never have to meet face to face.

I am conducting this study because I feel it is important to find out how blind and visually impaired students learn when not in the classroom. With this information I hope to inform the powers that be on how to eliminate barriers and increase accessibility on this great campus. Mark Twain said something to the effect of "Never let your schooling interfere with your education," I prefer to think "never let the campus be a barrier to your education". If I can count on your assistance in completing my study please contact me via e-mail at [pajohns1@vt.edu](mailto:pajohns1@vt.edu).

Thank you for your help,

Patrick Johnson  
[pajohns1@vt.edu](mailto:pajohns1@vt.edu)

Appendix AA: Off-Campus Student Information Questionnaire

Student Information Questionnaire

Dear Student,

Please complete the following questionnaire to the best of your ability. All information will remain strictly confidential in accordance with the rules and regulations set forth by the Institutional Review Board of Virginia Tech.

Name: \_\_\_\_\_

Choose an alias (this will be used when referring to your responses within the study), for example “Jack”, “Emily”, or “Olivia”

\_\_\_\_\_

Address \_\_\_\_\_

Phone number \_\_\_\_\_

e-mail address \_\_\_\_\_

Please circle the appropriate answer

Gender: Female Male

Class Standing: Freshman Sophomore Junior Senior Graduate

Name of College or University you attend:

Number of semesters you have been in college:

\_\_\_\_\_

Major: \_\_\_\_\_

Names of five (5) of the most desirable colleges or universities you considering attending:

\_\_\_\_\_

Names of five (5) of the most desirable colleges or universities you actually applied:

\_\_\_\_\_

Do you live:    on-campus    off-campus

If on-campus do you live in a:    dorm    fraternity/sorority, other (please describe)

\_\_\_\_\_

If off-campus do you live at home, in an apartment, other (please describe)

\_\_\_\_\_

If off-campus how far from campus do you live? Short walk, several miles, but on a bus route,  
several miles not on a bus route, a good distance away

How many roommates do you have? \_\_\_\_\_

Membership

On-campus organizations: \_\_\_\_\_

Off-campus organizations: \_\_\_\_\_

Level of visual impairment:    Minor (easily correctable with lenses) or Severe (requires text  
magnification or speech synthesis)

Has your level of vision remained stable or has it deteriorated over the past five years?

Would you mind sharing the name of your visual disability:

\_\_\_\_\_

Have you had mobility and orientation training? Yes            No

Have you participated in training at the Richmond Rehab Center or other state residential  
facility? Yes    No

Thank you for completing the Student Data Sheet. Please return this form and the attached  
Informed Consent Form in the accompanying envelope or by e-mail to [pajohns1@vt.edu](mailto:pajohns1@vt.edu).

## Appendix BB: Off-Campus Interview Questions

### **Event identification/awareness**

1. How do you find out about what is going on around campus?
2. Do you listen to the campus radio station or read the campus paper, if so in what format (i.e. via, radio, internet, hardcopy)
3. Which campus mailing lists are you subscribed to?
4. Of the mailing lists listed above how frequently do they alert you to events that you then consider attending?
5. Do you read the local paper or listen to commercial radio stations?
6. You said that you participated in the following on-campus activities \*\*\*\*\*, what drew you to them?
7. You said that you participated in the following off-campus activities \*\*\*\*\*, what drew you to them?

### **Mobility/Vision Issues**

1. In your initial questionnaire you described your vision as \*\*\*\*\*, how would you say that has effected your integration in campus life?
2. Do you see your visual impairment as a barrier to participating in campus activities?
3. What tools/techniques have you found that aide in your integration?
4. When you attend campus events do you generally go alone or with a group of friends?
5. What are the determining factors on which events you attend, or with whom you attend the events?
6. What would you say has been the biggest hurdle to fuller campus participation?

### **Campus impressions**

1. What are your impressions of this campus in terms of being physically & socially friendly to students with visual impairments?
2. What do you see as the most appealing aspects to this campus in terms of being accommodating to your needs?
3. What would you describe as the biggest barriers to your participation in on campus events?
4. Does the campus' location have any effect in how you perceive your participation in on campus activities?
5. Thinking back to when you were choosing where to attend, what drew you to \*\*\*\*\* over the other colleges/universities you applied to?

Appendix CC: Twenty Statements Test Positive & Negative Statements

The following table divides the participant's responses from the Twenty Statements Test into positive and negative responses as determined by myself.

Study Participant	Positive Statements	Negative Statements
Ann	I am a friend I am a sister. I am a wife. I am a student. I am a professional. I am hard-working. I am detail-oriented. I am engaged in my campus community. I am a traveler I am trying to figure out the next step in my career I am determined. I am one who tries to learn from my mistakes. I am always looking for the next best thing. I am responsible. I am a musician. I am an advocate. I am a talker. I am inquisitive.	I am a procrastinator. I am stubborn.
David	I am a native of Richmond, VA. I am a former undergraduate student at VT in 1998. I am a healthy 32 year old. I am a loving son to my mother. I am passionate about education. I am happy to be back in Blacksburg, VA. I am a Master's student at VT. I am a loyal friend. I love to watch films. I love to read mysteries. I want to earn a PhD at VT. I want to be a BOV Graduate Rep at VT in the future. I would like to work out more often and lose weight. I would like to eat more healthy. I would like to unpack my apartment and live more organized. I would like to have a GTA, GRA or Fellowship appointment next fall. I would like to have my car fixed and running properly.	

	<p>I want to file my taxes so I have more money in the bank.</p> <p>I am a lover in search of a mate</p> <p>I would like to have more friends in Blacksburg.</p>	
Emily	<p>I am Emily</p> <p>I am 21 years old.</p> <p>I am a white female from Virginia</p> <p>I am caring and faithful.</p> <p>I am albino.</p> <p>I am self-conscious.</p> <p>I am easy going.</p> <p>I am the one always with a smile.</p> <p>I am anxious to be a mother.</p> <p>I am a snowboarder.</p> <p>I am a granddaughter, a daughter and a sister.</p> <p>I am Catholic.</p> <p>I am always seeing the beauty in life.</p> <p>I am determined to surprise the doubters.</p> <p>I am a child at heart, but mature for my age.</p> <p>I am a leader, never a follower.</p> <p>I am always doing my own thing.</p> <p>I am Thankful for what God gave me.</p> <p>I am close with my family.</p>	<p>I am unable to do some things</p>

## Appendix DD: Twenty Statements Test Thematic Breakdown

The table below expands the work of Roy & MacKay (2002) by organizing responses into thematic units. The thematic units will represent variables in the following: (a) information pertaining to person, (b) information pertaining to environment, (c) pertaining to interactions, and (d) pertaining to disability. A fifth category of other was added after the data had been collected for responses which did not fit in any of the other four categories.

Name	Person	Environment	Interactions	Disability	Other
Ann	<p>I am a friend            I am a sister.            I am a wife.            I am a student.            I am a professional.            I am hard-working.            I am detail-oriented            I am trying to figure out the next step in my career.            I am a procrastinator.            I am determined.            I am one who tries to learn from my mistakes.            I am always looking for the next best thing.            I am responsible.            I am stubborn.            I am a musician.</p>	<p>I am engaged in my campus community.            I am a traveler.            I am inquisitive.            I am a talker.</p>	<p>I am engaged in my campus community.            I am an advocate.</p>		
David	<p>I am a healthy 32 year old.            I am a native of Richmond, VA.            I want to be a BOV Graduate Rep at VT in the future.            I would like to work out more often and lose weight.</p>	<p>I am a former undergraduate student at VT in 1998.            I am passionate about education.            I am happy to be back in Blacksburg, VA.            I am a Master's student at VT.            I love to watch</p>	<p>I am a loving son to my mother.            I am a loyal friend.            I love to read mysteries.            I want to earn a PhD at VT.</p>		<p>I would like to have my car fixed and running properly.            I want to file my taxes so I have more money in the bank.</p>

	<p>I would like to have a GTA, GRA or Fellowship appointment next fall.</p> <p>I am a lover in search of a mate.</p> <p>I am a Master's student at VT.</p>	<p>films.</p> <p>I would like to eat more healthy.</p> <p>I would like to unpack my apartment and live more organized.</p> <p>I would like to have more friends in Blacksburg.</p>			
Emily	<p>I am Emily.</p> <p>I am 21 years old.</p> <p>I am a white female from Virginia.</p> <p>I am easy going.</p> <p>I am anxious to be a mother.</p> <p>I am a granddaughter, a daughter and a sister.</p> <p>I am Catholic.</p> <p>I am always doing my own thing.</p> <p>I am Thankful for what God gave me.</p> <p>I am close with my family.</p>	<p>I am the one always with a smile.</p> <p>I am a snowboarder.</p> <p>I am always seeing the beauty in life.</p> <p>I am a child at heart, but mature for my age.</p> <p>I am a leader, never a follower.</p>	<p>I am caring and faithful.</p> <p>I am self-conscious.</p> <p>I am a granddaughter, a daughter and a sister.</p> <p>I am Catholic.</p>	<p>I am albino.</p> <p>I am self-conscious.</p> <p>I am determined to surprise the doubters.</p> <p>I am unable to do some things.</p>	

## Appendix EE: Suggestions for Future Studies: Study Outlines

Below I flesh out the studies I suggested in chapter five and provide an initial framework for each.

### College Transition Programs

A study examining college transition programs for incoming college freshmen, and more specifically students with disabilities could yield results suggesting programmatic changes. A starting point would be to review the archives of the DSSHE-L mailing list for earlier this year. A conversation on this topic occurred in March or April. Additionally state rehabilitation centers such as the Virginia Rehabilitation Center for the Blind and Visually Impaired run Summer transition programs and should have a wealth of resources.

### A National Variant

Expand the study nationally. The protocol described in chapter three is all but ready for a national study. Recruitment of study participants could be done through solicitations to the American Council of the Blind (ACB) and National Federation of the Blind (NFB) National Alliance of Blind Students (nabs-1) mailing lists. E-mail solicitations to state affiliate mailing lists could yield further study interest. Both data analysis tools (SPSS and NVivo) are designed to handle large quantities of data, and a study with participation measured in the tens or hundreds is going to yield more useful data than a study involving three (3).

### Localized Larger Demographic

A slight twist on the original study would be to do a comparative analysis between students registered with the disability services office (regardless of disability) and the student body as a whole. Such a study would provide a useful benchmark to compare results of more population specific studies too.

## Major Selection by Students with Disabilities

In chapter one of this dissertation I have a table showing the choice of majors by students with various disabilities. Identifying the factors prompting students with specific disabilities to cluster in certain majors would make for a fascinating read. The National Science Foundation has the STEM (Science, Technology, Engineering and Mathematics) program to encourage students with disabilities to enter these fields. I suspect NSF would be eager to fund a study on the subject.

## Disability and Standardized Testing

In the legal framework of my study (see chapter two) and case analysis (see appendix B) I touch on the topic of students and their parents requesting the student be classified as having a disability to gain accommodations on standardized tests, and whether tests taken under non-standard conditions should be “flagged” to reflect this. The case law on the topic at the time I looked at the issue was minimal, but I suspect has grown in the intervening years. Flagging raises a whole host of issues including the right to privacy, issues of self-disclosure to name but two.

Each of these topics interests me at one level or another. Whether I pursue any of these topics or choose one not mentioned above only time will tell.