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Sara Schley is an Associate Professor in the Department of Research and Teacher Education, NTID.

Effect of Postsecondary Education on the Economic Status of Persons Who Are Deaf or Hard of Hearing

Sara Schley

With Gerard G. Walter, Robert R. Weathers II, Jeffrey Hemmeter, John C. Hennessey, and Richard V. Burkhauser

This article is a summary of a study (Schley et al., in press) on the effect that post-secondary education has on earnings and on the duration of time spent in the Social Security disability programs for young persons who are deaf or hard of hearing. A longitudinal dataset based upon records from the National Technical Institute for the Deaf (NTID) and Social Security administrative records is used for this analysis. We find that those who graduate, even those who graduate with vocational degrees, experience significant earnings benefits and reductions in the duration of time spent on federal disability programs when compared with those who do not graduate with a degree. This finding suggests that reductions in the duration of time spent on Social Security programs are not limited to those with the highest level of scholastic aptitude and that investments in post-secondary education can benefit a broad group of hearing-impaired persons. In addition, the data show that individuals who attend college, but withdraw before graduation, fare no better economically than individuals who never attended college.

Certainly, it is no stretch to imagine a positive relationship between educational attainment and

life-long earnings and employment rates, as well as a decreased reliance on federal entitlement programs such as Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI). What is unique about this work is the data upon which this claim is based: It is a life-history study of every student who ever applied to NTID, with a look at their earnings, employment, and SSDI and SSI trajectories in the years after applying up through 2006.

Nationally, the educational attainment level of severely to profoundly deaf individuals is lower than that of hearing individuals (see the literature reviewed in Schley et al., in press). While national demographics point to inequities in education, employment, and earnings for deaf and hard-of-hearing individuals, we have little information to date on looking at these factors conjointly and longitudinally. In today's economy, a non-disabled person with an associate's degree can expect to earn 30% more than a high school graduate, and a bachelor's graduate can expect to earn 60% more than a high school graduate. Similar results have been reported for deaf and hard-of-hearing college graduates. Furthermore, Weathers II et al. (2007) report that deaf post-secondary degree earners who participated in the SSI program while children (due to low-income levels of their families) subsequently rely on the SSI program as adults to a lesser extent than their peers who do not earn post-secondary degrees. This means that earning a college degree reduces the reliance on such programs for even those who were in families in low economic brackets as children.

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Notes of Note

Chris Kurz, Department of Research and Teacher Education, and Carolyn Fisher and Heather Mooney (Rochester School for the Deaf) received a grant from the National Council of Teachers of Mathematics to conduct a classroom action research project on a mathematics visual dictionary and student learning.

Rico Peterson, Northeastern University, and Christine Monikowski, Department of American Sign Language and Interpretation Education, have

published a chapter, "Perceptions of efficacy of sign language interpreters working in K-12 settings," in K. Mangan Christensen (Ed.), *Seeing clearly: Ethical considerations in education of children who are deaf* (Gallaudet University Press, 2010). Monikowski is also the author of "The academic's dilemma: A balance and integrated career" in L. Swabey and B. Nicodemus (Eds.), *Moving forward in interpreting studies: Methodology and practice revisited* (John Benjamins, in press).

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Jerry Berent is Professor and Interim Chair of the Department of Research and Teacher Education, NTID.

This issue of the *NTID Research Bulletin* contains two articles that fall into quite distinct categories along the broad spectrum of deaf studies and deaf education research. The first article, by Dr. Sara Schley and colleagues, summarizes the results of their impressive longitudinal study on the effects of postsecondary education on the economic status of deaf and hard-of-hearing persons. Their findings underscore the value of completing a college degree at NTID/RIT. Relative to deaf and hard-of-hearing students who did not complete a college degree, completing a college degree was shown to result in increased employment rates, increased earnings, and decreased dependency on federal support programs. The complete results of the Schley et al. study are scheduled to appear in the *Journal of Deaf Studies and Deaf Education*.

The second article, by Dr. Rebecca Sánchez, represents exciting research at the intersection of cultural studies and deaf studies. Her work is groundbreaking at that intersection and was carried out within a research genre that is being represented for the first time in the *NTID Research Bulletin*. Dr. Sánchez's article is drawn from her 2010 doctoral dissertation, *Embodied language: Deaf theory, visual poetics, and American Modernism*. Her article is accompanied by a table of dissertation chapter

titles for readers who wish to pursue more information on the topics that Dr. Sánchez has researched in her dissertation.

On the outside cover of this issue, there is advance information on the two invited presenters for the 2010-2011 Edmund Lyon Memorial Lectureship Series: Dr. Tom Humphries on December 16, 2010, and Dr. Jane K. Fernandes on April 7, 2011. This series is a joint venture of the Department of Research and Teacher Education and the Department of Liberal Studies at NTID and the Rochester School for the Deaf. For more information, please visit www.rit.edu/ntid/lyon.

For further information on research conducted within the NTID Department of Research and Teacher Education, please visit the department's Research Program home page, www.ntid.rit.edu/research. To provide comments or suggestions concerning research at NTID or the *NTID Research Bulletin*, simply click on "suggest considerations."

I hope you enjoy this current issue of the bulletin.

Gerald P. Berent

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NTID Research Bulletin

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Study Methodology

To gather data about earnings and numbers of alumni reporting earnings, NTID negotiated a contract with the U.S. Social Security Administration (SSA). Under this contract, NTID provided the SSA with detailed data about the education, dB levels, demographics, and family backgrounds of individual alumni. The SSA merged this information with earnings, employment, and SSI and SSDI participation histories up to 2006, creating life-history files of these factors from the time that individuals applied to NTID until 2006. Subsequently, the SSA returned tabular information about NTID alumni. All tables were presented by degree level and age. The graphs in this summary present growth over time, grouped by age in years, where age is controlled for but chronological time is not. For example, regardless of whether someone was 18 years old in the year 1968 or the year 2006 or anywhere in between, their employment level is reported when they were 18 (as well as for every other year of age where they were part of the data file). For the income measure, income was adjusted to year 2005 dollars.

For this study, we focused on a descriptive picture of growth across age. Graphs are thus longitudinal with data of individuals over time, grouped across different age levels in one-year increments. This means we explicitly did not pay attention to cohort differences in this study; instead, we were interested in what happens to people as they age in the work force with respect to their income, employment level, and participation in SSI and SSDI federal disability programs. The deaf and hard-of-hearing subjects in this study represent the universe of individuals exiting NTID from 1970 to the spring quarter of 2006 (as well as those who applied but did not come). This sample is not intended to be representative of deaf and hard-of-hearing persons in the United States. Because this represents NTID population data and because the number of individuals in the study is so large, significance testing was not appropriate.

Results

Employment of graduates

For the purposes of this study, income reported to the Internal Revenue Service that qualifies for the social security tax deduction (FICA) is assumed to be evidence of employment. Figure 1 summarizes the information in the form of percentages of the subjects reporting income, classified by age and degree level.

The effects of graduation from college on employment are substantial. Graduates report earnings at rates substantially higher than non-graduates (withdrawals or non-admitted applicants). At age 30 approximately 85% of graduates (both bachelor's and associate's degrees) report having earnings from work. For non-graduates (withdrawals and non-admits), about 75% report earnings at age 30. By age fifty, 74% of bachelor's and 72% of associate's graduates reported earnings, whereas only 61% of withdrawals and 62% of rejected students reported earnings. Remarkably, of those who were admitted but who chose not to attend, only 53% were employed at the age of 50. In this population, a degree from NTID substantially increases labor force participation rates (as measured by those reporting income) for individuals who graduate. Noticeably, those who were accepted to NTID but who chose not to attend show a higher employment rate than those who did not graduate (withdrawals and non-admits), but a lower employment rate than that of NTID graduates.

Earnings of graduates

Schley et al. (in press) includes a graph for earnings. For alumni the effects of college graduation on increasing earning power is dramatic. In 2005 dollars, between the ages of 25 and 50, bachelor's graduates will earn, on average, approximately \$15,000 per year more than students rejected for admission and \$12,000 more than those who attend but withdraw without a degree. Associate's degree graduates will earn about \$7,000 less per year than bachelor's graduates but approximately \$8,000 more per year than students who were denied admission and \$5,000 more than students who withdrew

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Notes of Note

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Geoffrey S. Poor, Office of Communication Assessment Services, recently published a book and companion DVD entitled *1,000 words to sign* (Thunder Bay Press, 2010).

John Albertini, Department of Research and Teacher Education, has published a chapter, "Deafness and hearing loss," in I. B. Weiner & W. E. Craighead (Eds.), *The Corsini encyclopedia of psychology*, vol. 2 (4th ed.), John Wiley & Sons, 2010. Albertini and Connie Mayer (York University) have had their article, "Using miscue analysis to assess comprehension

in deaf college readers," accepted for publication in the *Journal of Deaf Studies and Deaf Education*.

Gerald P. Berent and **Ronald R. Kelly**, Department of Research and Teacher Education, and Tanya Schueler-Choukairi, RIT English Language Center, have had their article, "L2 and deaf learners' knowledge of numerically quantified English sentences: Acquisitional parallels at the semantics/discourse-pragmatics interface," accepted for publication in *Studies in Second Language Acquisition*.

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Figure 1.
Percentage of subjects reporting earnings by age, degree attainment (ages 20-50)

Employment:
 % Reporting Income

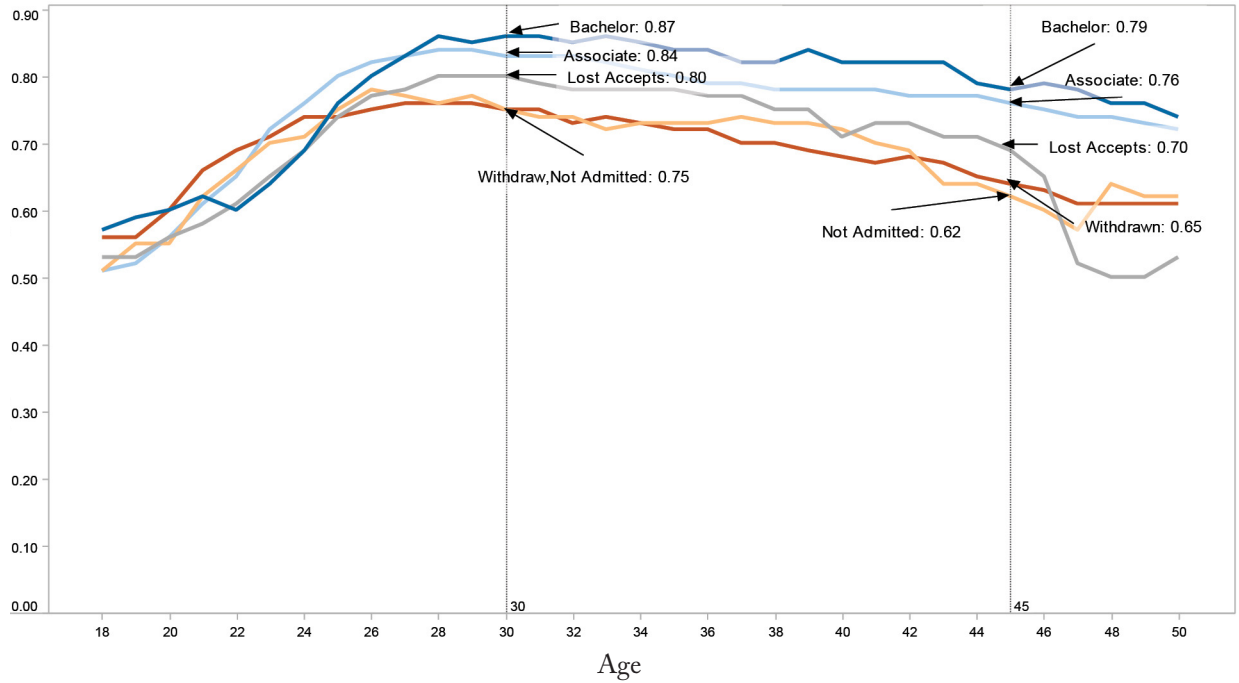
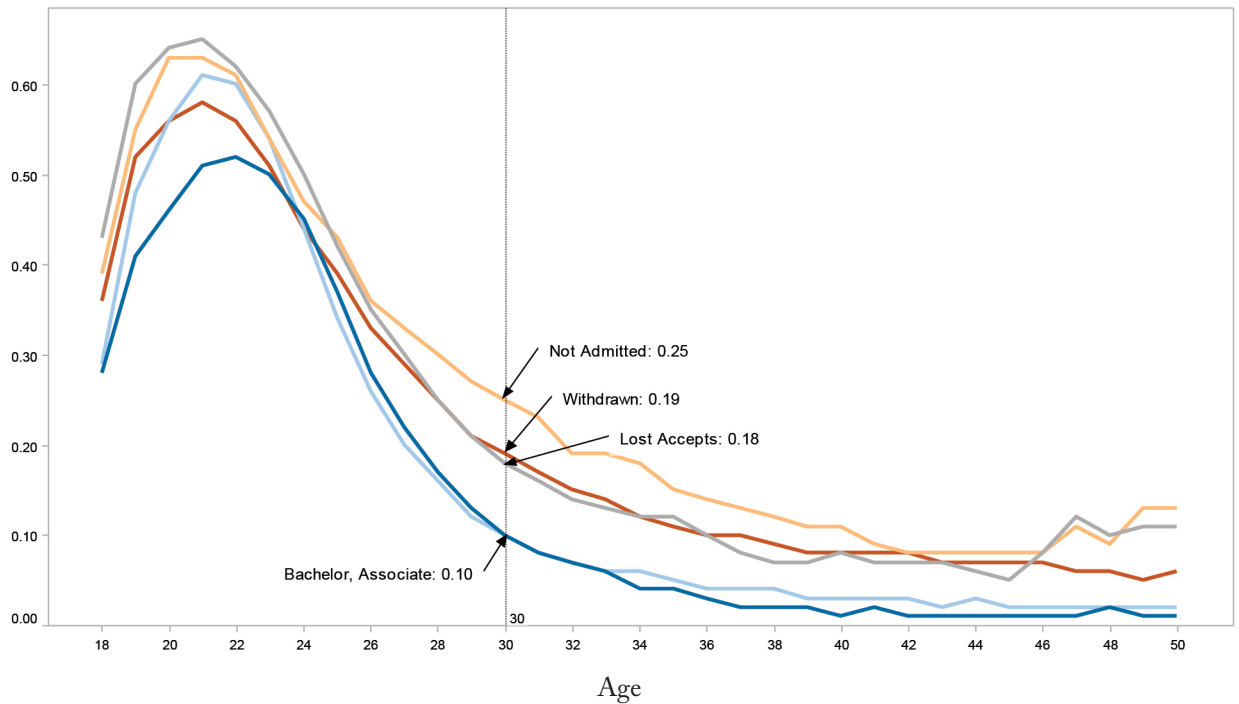


Figure 2.
Percentage of subjects participating in SSI by age, degree attainment (ages 20-50)

SSI Participation



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Marianne Gustafson, Communication Studies and Services, published “Contemporary reflections on speech-based language learning” in *The Volta Review*, 109(2-3), pp. 143-153, 2010.

Gerald S. Argetsinger, Department of Cultural and Creative Studies, made two presentations at the Sunstone Symposium in Salt Lake City, UT, in August, 2010: “Latter-day families/Latter Days families” [The Family in Gay Mormon Fiction and Drama] and “The LDS Church as depicted

by non-Mormon screen writers and playwrights” [Gay and Mormon on the Stage and Screen].

Gerald P. Berent, Ronald R. Kelly, and John Albertini, Department of Research and Teacher Education, and Rose Marie Toscano, Department of Liberal Studies, presented *Deaf students’ knowledge of English verbs’ argument and event properties* in March at the annual convention of Teachers of English to Speakers of Other Languages, Boston, MA.

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without a degree. These differences demonstrate that not only are graduates employed at higher rates, but they earn significantly more than individuals who withdrew or were denied admission to NTID.

In percentage terms, the incremental benefit on earnings of completing college is significant when compared to non-graduates. On average, between the ages of 25 and 50, graduates with a bachelor's degree earned 66% more and sub-bachelor's graduates earned 34% more than individuals who were denied admission. Students who dropped out of college without completing a degree report earnings that differ only slightly (18%) from students who were denied admission.

Participation in SSI and SSDI

The federal government provides two income-support programs targeted toward disabled individuals: Supplemental Security Income and Social Security Disability Insurance. SSI is a federal entitlement program established in 1972, which is intended to provide income support for disabled individuals with little or limited resources and for retirees, disabled or not. SSDI is a federal social insurance program established in 1956 for disabled workers who are unable to work and not yet eligible for SSI benefits. To be eligible for SSDI, a disabled person must have worked or had been working but earning less than the Substantial Gainful Activity (SGA) level (\$830/month in 2005) and paid Federal Insurance Contributions Act (FICA) tax for enough years to be covered under Social Security.

Figure 2 presents information about the percentage of subjects who collected SSI benefits by age and education level. Age has a significant impact on receipt of SSI payments for NTID alumni. The percentage of subjects collecting SSI declines sharply from about 60% of cases in the early twenties until the mid-thirties when the rate of participation averages about 2% for graduates (both bachelor's and associate's) and 10% for individuals who have withdrawn or were denied admission. While rates decline significantly for all groups, the rate of decline is slower for non-graduates and remains about 8% higher throughout the middle-age years. College graduates participate in the SSI program at lower rates than non-graduates.

Schley et al. (in press) includes a graph for the SSDI results. Overall, the percentage of individuals collecting SSDI who withdrew or were denied admission was greater than for individuals who graduated. The percentage of graduates collecting SSDI increases until the mid-twenties (while students are completing school and looking for work) and then declines sharply until about age 30, when only about 10% of graduates collect SSDI.

After about age 30 there begins a slow increase in participation until age 50, when about one quarter of graduates are collecting benefits. The rates for graduates contrast greatly with the non-graduates, whose rates of participation increase continuously from about 10% at age 20 to more than 35% by age 50. As compared with non-graduates, a degree from NTID substantially reduces dependency on SSDI.

Discussion

Graduation from college results in major economic benefits for deaf and hard-of-hearing persons. Baccalaureate graduates in this study will earn about 66% more over their working lives than students who were denied admission. Sub-baccalaureate graduates will earn 34% more than those who were denied admission. With respect to labor force participation, about twice as many non-graduates report no earnings than do graduates. For the individuals in this study, those who withdrew or were denied admission were found to be far more likely to participate in the SSI or SSDI programs than were graduates, especially during the prime working years between ages 25 and 50. It is abundantly clear that a substantial number of individuals who do not complete a college degree continue to depend heavily on the federal government for basic income support throughout their lives.

These data show very clearly the benefits of acquiring a college degree for students who apply to NTID. They speak poignantly about increased employment rates, increased earnings and resulting increased tax contributions, and decreased dependency on federal income support programs. Future work should extend this study to students who apply to other post-secondary institutions.

Acknowledgements

This article is a summary of Schley et al. (in press) and has the same title as the journal article. The research was supported by the National Science Foundation [Grant # REC 0346951]. All errors remain the responsibility of the authors and not the National Science Foundation.

References

- Schley, S., Walter, G.G., Weathers, R.R., Hemmeter, J., Hennessey, J.C., & Burkhauser, R.V. (in press). Effect of Postsecondary Education on the Economic Status of Persons who are Deaf or Hard of Hearing. *Journal of Deaf Studies and Deaf Education*.
- Weathers II, R.R., Walter, G., Schley, S., Hennessey, J., Hemmeter, J. & Burkhauser, R.V. 2007. How postsecondary education improves adult outcomes for supplemental security income children with severe hearing impairments. *Social Security Bulletin*, 67(2), 101-131.



Rebecca Sánchez is an Assistant Professor in the Department of Liberal Studies, NTID.

Attitudes Toward Communication: Intersections Between Deaf History and American Modernism

Rebecca Sánchez

This article is excerpted from my dissertation (see Table), which examines intersections between Deaf Studies and American Modernist literature. While not frequently read in tandem, the two fields are mutually illuminating. Deaf Studies provides context for Modernists' interest in embodied language and visual culture, and the presence of these discourses within mainstream Modernist writing demonstrates the broader relevance of issues at the heart of Deaf Studies to American literature and culture.

Although we are often unaware of it, ideas about language and communication permeate our literary tradition, influencing both the formal techniques authors use and their depictions of the ways characters communicate. Because most people are unaccustomed to interrogating their own communicative practices and biases, these elements of texts are almost always overlooked. Deaf Studies can play a vital role in helping us recognize the ways literary texts engage issues of communication by reminding us of the real world stakes involved in discussions of linguistic variation.

Particularly in the early twentieth century, discourses surrounding linguistic freedom in the context of Deaf lives and American literature often ran parallel to one another. A growing desire to consolidate national identity around the use of standardized English brought issues of linguistic conformity into broader consciousness. In the Deaf community, this drive toward conformity was experienced most directly through the post-Milan shift in educational philosophy away from sign language instruction and toward an oral-only approach. Just as the signing Deaf community challenged the assumptions underlying this transition, hearing writers also rebelled against linguistic homogenization. In literary texts, this rebellion involved problematizing received understandings of how the written word could

function by subordinating meaning to form, creating hybrid literary/visual forms, and "breaking" poetic lines. Though these experiments were often critiqued as being out of touch with reality, contemporary attitudes toward Deaf language reveal the practical import of maintaining a space for linguistic diversity. While most hearing writers were unaware of the similarities between their own work and ideas expressed by the Deaf community, many Modernist texts did discuss the need for linguistic variation in order for individuals to achieve fulfillment. While most of these texts do not literally reference deafness or disability, they do touch on issues central to Deaf Studies. Reading the fields in relation to one another is important both to get a broader sense of attitudes toward communicative practices at the beginning of the twentieth century and to better understand how ideas about what language could and should look like influenced the development of Modernist literature.

One writer whose work engages these ideas is Sherwood Anderson. Anderson is best known for his 1919 short story cycle *Winesburg, Ohio* (New York: Penguin, 1992), which chronicles the lives of the inhabitants of a small Midwestern town. The text has long been praised for its formal innovations, but what critics have failed to notice is its originality in terms of considering communicative difference. Numerous characters in the book find it difficult to communicate successfully through standardized verbal speech. Doctor Reefy, for example, is unable to express himself to anyone other than his wife and Elizabeth Willard. The men of the Bentley family find it "difficult...to talk" (p. 65). Enoch Robinson "couldn't understand people and he couldn't make people understand him," (pp. 167-8) so he creates a community of fantasy friends with whom he can communicate more freely. Elmer Cowley also has difficulty speaking. When he tries, he is unable to get the words out, "and his arms beg[i]n to pump up and down" (p. 198). Louise Bentley feels similarly isolated. As the narrator explains, "It seemed to her that between herself and all the other people in the world, a wall had been built up and that she was living just on the edge of some warm inner-circle of life that must be quite open and understandable to others" (p. 91). The fact that so few in *Winesburg* are able to achieve these kinds of connections

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Luane Davis Haggerty, Department of Cultural and Creative Studies, presented "Breaking the silence: Deaf women of the 19th century and the process for creating a Deaf Theater adaptation of Alcott's novel *Little Women*" at a conference titled "In Heaven's Name, Give Her a Chance: Defining the Sphere of Women in the 19th Century." The conference was held in July, 2010, at the Alcott Museum, Concord School of Philosophy, in Concord, MA.

Aaron W. Kelstone, Department of Cultural and Creative Studies, presented "Film and deaf writers: Crossing the digital divide" at the World Deaf Cinema Festival at Gallaudet University in Washington, DC, on November 4, 2010.

The following presentations are among those made by NTID faculty members, students, and colleagues at the 21st International Congress on the Education of the Deaf (ICED), held in Vancouver, British Columbia, Canada, July 18-22, 2010:

using conventional speech, however, suggests that such walls are symptomatic not of the problems of individuals but of a society whose modes of communication do not accommodate the diverse needs of its population.

It is in the story “Hands” that Anderson most directly explores the consequences of a one-size-fits-all approach to communication. “Hands” chronicles the life of Wing Biddlebaum, who moves to Winesburg after being run out of his Pennsylvania town following accusations of inappropriate conduct toward his male students. The details surrounding the incident are left vague; the only clues the reader is given are that Biddlebaum does not understand the town’s anger and that he often uses his hands to express himself: “Wing Biddlebaum talked much with his hands. The slender expressive fingers, forever active, forever striving to conceal themselves in his pockets or behind his back, came forth and became the piston rods of his machinery of expression” (p. 28). Given his propensity for manual communication, it is probable that Biddlebaum is guilty not of inappropriate touching, but of communicating in a way that calls too much attention to his body, in a way that is decidedly different from that of the other people in his town. Lacking a vocabulary to describe their discomfort with this difference, the townspeople turn to a vocabulary they do have, that of perversion. Biddlebaum similarly lacks a means to describe his difference. Confused about what has happened and knowing only that his hands are somehow to blame,

he attempts to restrain them, to communicate “normally.” The result of this conformity is a complete loss of connection to other people. In Winesburg, Biddlebaum becomes a recluse. As the narrator explains, Biddlebaum, “forever frightened and beset by a ghostly band, did not think of himself as in any way a part of the life of the town where he had lived for twenty years” (p. 27). Denied access to the mode of communication with which he is most comfortable, Biddlebaum moves from the center of town activity (as town teacher) to the margins, cut off, like Louise, from that “warm inner-circle of life.”

Though he was unaware of the contemporary struggles of the Deaf community for the same linguistic freedom he describes, Anderson’s work demonstrates an understanding of the importance of communicative flexibility to personal development. As the text argues, what Biddlebaum needs is not to be taught to conform to linguistic standards, but for others to respect his distinct communicative preferences. At a time when general wisdom held that it was in the best interest of a child to be taught to speak normative English, whatever the cost, it is important to note that there were writers operating within broader hearing culture who recognized the devastating effects of such enforced conformity. Reading this trend in Modernism in tandem with Deaf history allows us to gain a more complex understanding of attitudes toward communication at the beginning of the twentieth century.

Table

Rebecca Sánchez’s
2010 doctoral dissertation

Embodied language: Deaf theory, visual poetics, and American Modernism

Doctoral dissertation, University at Buffalo (SUNY). Buffalo: Proquest/UMI, 2010 (AAT 3407943).

Chapter One	Welcome to Deaf Studies
Chapter Two	“Incarnate Word”: Hart Crane and the Politics and Poetics of Embedded Language
Chapter Three	Sherwood Anderson and the Ethics of the Story
Chapter Four	“People of the Eye”: Cinematic Poetics and Deaf Vision

- John Albertini, Mary Karol Matchett, and Ronald R. Kelly, *Personal factors that influence deaf students’ performance in college*.
- Paula M. Brown (Nazareth College) and Marianne S. Gustafson, *Prosody and spoken language intelligibility in young adult cochlear implant users*.
- Chris Kurz, *Action research in the mathematics classroom: Deaf learners with diverse needs*.
- Stephanie Polowe, Stephen Aldersley, and Carrie Wolkofsky (MSSE graduate student), *Somehow it just clicked: Deaf college students’ success in basic English classes*.

- Stephanie Polowe, Kathleen Szczepanek, Susan Keenan, Audra Rehbaum (MSSE graduate student), and Marianne Gustafson, *I never thought about it that way before: Teaching ethics to deaf college students*.
- Stephanie Polowe, Dominique Lepoutre, and Marc Marschark, *That thing we do: A literature review on simultaneous communication in education*.

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The Edmund Lyon Memorial Lectureship Series



Tom Humphries, Ph.D.

Associate Professor and Associate Director of
Education Studies and Associate Professor in the
Department of Communication at the
University of California, San Diego

Deaf Identity Discourse:
Some Theoretical Frames

December 16, 2010
7:00 PM

CSD Student Development Center — 1300
Rochester Institute of Technology
National Technical Institute for the Deaf
Building 55

Jane K. Fernandes, Ph.D.

Provost and Vice Chancellor for
Academic Affairs at the
University of North Carolina,
Asheville, North Carolina

Inclusive Deaf Studies:
Barriers and Pathways

April 7, 2011
7:00 PM

CSD Student Development Center — 1300
Rochester Institute of Technology
National Technical Institute for the Deaf
Building 55