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Robert Keith Collins

Since studies of American Indians with learning disabilities appear to be non-existent, information must be extrapolated from other groups until the needed studies of this population are conducted. It could be expected there would be proportionately as many American Indian children with learning disabilities as among other ethnic groups.

—John M. Dodd and Ron Nelson[1]

INTRODUCTION

Americans talk about captions as if they were only for foreign films. The problem with such an assumption is that it creates an illusion that the benefit of captions does not extend past translation. This article examines the extent to which using closed-captioned video material in the college classroom can be a useful universal teaching tool in enabling Native American and Alaska Native student achievement. Central in this discussion is a presentation of two years of preliminary data from an ongoing observational study of student success in my American Indian Studies 150 course on "American Indian history in the United States." This study addresses the infrequently recognized phenomenon that captions can assist not only students with diagnosed learning disabilities, but also so-called "normal learners," or the learning abled, to improve their recollection of information from videos that are used to complement lectures.[2]

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In the epigraph above, Dodd and Nelson allude to a perennial issue of concern for the field of Native American studies: the continued need for comprehensive studies of learning disabilities among Native American and Alaska Native students on college campuses. This point is significant because it illuminates the need for enhanced academic understandings of the changing relationships between Native American and Alaska Native student needs both as unique populations and as integral members of the student body on college and university campuses, and faculty attitudes toward accommodation that are vital for enabling student achievement.[3] Although the central focus of Dodd and Nelson's analysis was on general student needs and the roles tribal colleges can play in addressing learning disabilities, this study seeks to expand this discussion by focusing on students at a mainstream university, San Francisco State University, and the specific role that professors can play in promoting achievement through the use of captions.[4] This article encourages faculty to begin to think beyond the binaries of ability and disability and consider the common resources that pedagogical practices like caption use with video materials in the college classroom can offer. As suggested by David Rose and Anne Meyers, such simple practices can encourage achievement among students who do not seem to "fit the mold" and enable the instructor to develop a more flexible curriculum that ensures success for all students.[5]

WHAT ARE CAPTIONS?

Captions have been subjectively defined as the words shown during a movie that transcribe what is said. Captions come in both closed and open formats. "Closed captions" can be turned off for individuals who do not require the resource during the viewing of a video. "Open captions," on the other hand, transcribe the dialogue within videos whenever the film is shown.[6] Depending on the number of speakers, captioning usually offers two to three lines of text that provide viewers with a script of the discussion. Although less than twenty years ago captioning was riddled with issues related to accuracy in translation and transcription, particularly where Native American and Alaska Native languages were used, as technology has improved, today minimal delay or mistranslation occurs between the spoken word and captioning.[7]

In listening to all of the students in my class at the beginning of this observational study, one heard that individuals—particularly those of Native American and Alaska Native descent with learning disabilities (dyslexia, hearing impairment, etc.)—were becoming frustrated by the amounts of information videos contained and their inability to spell the Native American nation and place-names covered in films on ancient America, American Indian

cultural change, colonization, and resistance. Although a resources guide was provided to students which included the information that they were supposed to excerpt from the videos, many—both able and disabled alike—stated that they did not feel confident in their abilities to pay attention to the video and remember the information that they were supposed to take notes on. Could captions offer an empowering resource?

The significance of this question becomes apparent when one tries to understand the extent to which captions can enable all students to improve their recollection of course video materials and why all students seemed to perform better when captions were used regularly with video materials in the classroom than when they were not. In a time before Wikipedia, cell phones, and texting—when the attention spans of students were imagined to be greater than that of fruit flies—professors could at least also imagine that information from video materials was given undivided attention by all students in the college classroom. Such an expectation, however, may be falsely premised on the illusion that all students receive information in the same way and that the learning disabled are the exception.[8]

Despite a central focus on television usage with younger K-12 populations, closed-caption research has developed a small but complex body of literature over the past forty years that lends itself to this study. One set of studies examines the impact of using closed-captions on the achievement of students with hearing disabilities. These analyses reveal a significant improvement in academic performance and knowledge retention.[9] The growing body of academic research on deaf American Indians and Alaska Natives significantly corroborates these trends.[10] A second set of studies examines how closed-captions can be an effective tool in improving student reading ability.[11] Students who were educated through the use of both closed-captions and sound improved their academic performance and increased their vocabulary related to the subject matter being covered. A third set of studies examines the impact of using closed-captions in the instruction of remedial readers with normal hearing. These analyses reveal that comprehension of the course material was increased. This increase correlated with greater student attendance and more time spent in understanding the course materials. Although these studies focused on either learning disabled or abled, what they reveal in tandem is the potential for captions to be an effective teaching tool for ensuring achievement for all students.[12]

Problems in the Analysis of Caption Impact

Although empirically sound, several theoretical problems emerged in analyses of caption-use impact. One, the literature contains centered discussions on the

reliability of captions as a useful educational tool for K-12. Arguments for the use of captions have been focused on either learning disabled or abled, with the common benefits for both groups—the approach taken in this study—remaining an open question.

Second, the literature reveals that students do not always respond to course material and teachers in the same way. Some may really like a course because of their personal opinions about the course material and/or the instructor. Like all student populations, Native American and Alaska Native students may on the one hand be very agreeable to instructors who they feel can relate to their experiences, understand them as individuals and members of sovereign indigenous cultural groups, and are willing to assist them in their efforts to comprehend the course material. On the other hand, the remainder of students may be very disagreeable to instructors who they feel are not helpful, not someone who can relate to them, or not willing to make time for answering questions, regardless of the many resource aids being offered in class.[13] Such variations in behavior make it particularly difficult to assess the aspects of pedagogy upon which student achievement is based, including the factors of closed-caption use and faculty personality.

Third, in some studies it is difficult to determine the extent to which caption use or the course material impacted student desire to achieve. In Goldman's and Goldman's study, for example, popular situation comedies were used with closed-captions as a pedagogical practice with great success.[14] Faculty in primary, secondary, and higher education all use different resources to educate their students; however, most in higher education are not seeking to "entertain" their students according to the standards of popular culture. Therefore, it is difficult to understand how closed-caption use will impact academic achievement among college students without further student-centered interviews. This will be the goal of phase II of this study.

UNIVERSAL DESIGN IN HIGHER EDUCATION (UDHE) AND CAPTIONS

A larger question surrounding this discussion will no doubt continue to challenge scholars interested in understanding the impact that learning disabilities have on Native American and Alaska Native student success in higher education: how can one address the specific needs of Native American and Alaska Native students within a mainstream curriculum? A potential answer to this question lies in the intersection between two accommodation models used during the course of this observation study: Universal Design (UD) and Universal Design in Higher Education (UDHE). Burgstahler and Coy

illuminated the importance of diversifying educational pedagogy in their coauthored work *Universal Design in Higher Education: From Principles to Practice*, which suggested that "UD promotes an expanded goal to make products and environments welcoming and useful to groups that are diverse in many dimensions, including gender, race and ethnicity, age, socio-economic status, ability, disability, and learning style."[15] Although Ronald Mace initially coined UDHE for use in the fields of architecture and consumer product design, when applied to higher education UDHE encourages the creation of flexible pedagogy that ensures curricular equity—without lowering academic standards—for all learners in college classrooms.

These accommodation models, which include closed-caption use, has led to the reorientation of the roles that faculty, student service administrators, and disabilities services play on college and university campuses. By stressing symbiotic relationships to reduce barriers to learning and facilitate student achievement, faculty and administrators collaboratively produce educational materials and pedagogical practices. For example, they may systematically use captions with all video materials shown in the classroom, and student support services may provide sufficient funds for the purchase and maintenance of captioned video materials and academic technology for the classroom that can address the diverse needs and learning styles that college students embody. The outcome is a holistic pedagogical practice within higher education that enables—without ability or cultural segregation and stigmatization—universally designed curricula for all college classroom learners.[16]

The benefits of a UDHE approach can be seen in one particular area, that of addressing the barriers to student success caused by "learning differences." Within this discourse, importance is placed on educator recognition of the incredible variation in knowledge acquisition that exists among student populations. For example, unrecognized barriers that affect a student's ability to learn or attend classroom instruction, or "invisible disabilities," often go unnoticed as a component of this variation.[17] This is disconcerting because such barriers can affect reading, information processing, test taking, and writing capabilities. These barriers also contribute to the reported 75% to 93% dropout rate for Native American and Alaska Native students in higher education.[18] The implementation of UDHE through Universal Design in Learning (UDL) curriculum in the college classroom helps educators to address these barriers by designing a classroom environment and curriculum for all learners.

Despite the force of Burgstahler's and Coy's implementation models and examination of how UDL in implementation and practice requires a supportive administration, academic discussions of post-implementation phase efforts within specific disciplines have yet to begin. This case study attempts to initiate this conversation by relating it to Native American and Alaska Native

student achievement needs and shedding light on the benefits of UDL in pedagogical practice. The next section presents the case study and preliminary findings from my own journey in implementing UDL in my class in American Indian studies at San Francisco State University.

The Study: Sample and Methods

The observations presented here come from a recent case study begun in the spring of 2007 as a result of my participation with the Ensuring Access through Collaboration and Technology–Faculty Learning Community group at San Francisco State University (EnACT–FLC) under a grant from the Department of Education. The charge given to participants was to find ways to integrate UDL principles into one or more of our classes. The rewards that resulted from this challenge are this observational case study of the effects of captions on student achievement and the resource captions could potentially provide for reducing barriers to student success. The initial convenience sample for this study consisted of forty-nine students in my American Indian Studies 150 class "American Indian History in the United States." Ten of these students were enrolled in or descended from five different Native American or Alaska Native nations, and were both urban and rural in origin.

Due to an increased teaching load during the second year of observations, enrollment in this class increased from forty-nine to one hundred twenty students, and these became the sample population for the duration of this study. However, the Native American and Alaska Native population has consistently remained between ten and twelve students per semester. These students collectively represented the diversity of ethnic groups found on campus. Like all other students, the Native American and Alaska Native students represented various social and economic backgrounds and majors from across the colleges, including students who were seeking degrees ranging from biology and engineering to American Indian studies and English. Students also represented individuals of diverse learning capabilities and reflected variations by which students learned and came to understand information.

In preparation for their first exam, students watched several videos which alternated between captioned and uncaptioned, of varying content and excitement (for example, *Savagery and the American Indian* Part I (Wilderness) and Part II (Civilization) and the Ancient America Series *Search for the First Americans*).[19] By "excitement" I mean entertainment value. Although all of these videos are produced by the collaborative efforts of Native Americans and anthropologists, they vary in the degree of whimsy with which some of the scholars present the information. Such presentations range from stories

of local community members ricocheting bullets over the heads of archaeologists at Meadowcroft in Pennsylvania—a site used to support the Land Bridge Theory—to young Arapaho children laughing at the fact that they can make bull's-eyes with an ancient atlathl, to the whimsically stoic facial expressions of renowned Cherokee actor/activist Wes Studi after his serious explanation of the achievements of the ancient peoples of the Eastern Woodlands, Southwest, and Pacific Northwest. To guide them toward the important information to excerpt from the videos, students are given a list of events and scholars on which to take notes. Some examples of the alternation between captioned and uncaptioned videos include: in the first video, *Search for the First Americans*, captions were used; with *Savagery and the American Indian*, Part I, no captions were used; for the showing of *Savagery and the American Indian*, Part II, captions were used; and so on.

OBSERVATIONS

When I first began this case study, I was a little skeptical about whether or not a simple tool like closed-captions would actually impact the way that students interacted with the course material, one another, or their overall achievement. In fact, to my amazement two trends emerged in all students, particularly the Native American and Alaskan students. When captions were not used, students were quite passive and silent during in-class discussions—with the usual talkers dominating the conversation—and generalizations were pervasive, such as "the Indians did this . . . ," "the Native did that. . . ." However, when captions were used, the complete opposite occurred: students were more engaged; seemed to take better notes, as reflected in exam grades; and they were responsive to specific questions asked about the films and the individual and collective Native American and Alaska Native lived experiences upon which the films shed light. In a similar vein, both Native and non-Native students made interesting analogies between the course material and their everyday lives, and readily referenced specific information and events from the video. Native American and Alaska Native students often recalled knowledge that parents and/or community members had taught them which at times complemented some videos and contradicted others, and this led to vigorous discussion about the reasons for multiple perspectives on Native American and Alaska Native histories, which ones are true, and who gets to decide. In large part this was because the history of their band or family, for example, did not match the common history discussed about their tribal nation in the video. Such discussions were refreshing and meaningful in that they illuminated for non-Native students the significance of intracultural variation within Native

American and Alaska Native communities and histories and complemented future lectures on the topic.

Two major trends in the correlation between caption use and student success emerged during this observational study. First, prior to the first exam when captions were not used during the presentation of video materials, student discussions and notes on video information were very general. The average C grade on the first exam also reflected this excessive general knowledge and lack of specificity on the material covered in the videos (see figure 1, left columns).

Observations Year I

- Exam Grades

- American Indians Studies 150: American Indians in U.S. History

- Fall Semester 2007 & Spring Semester 2008
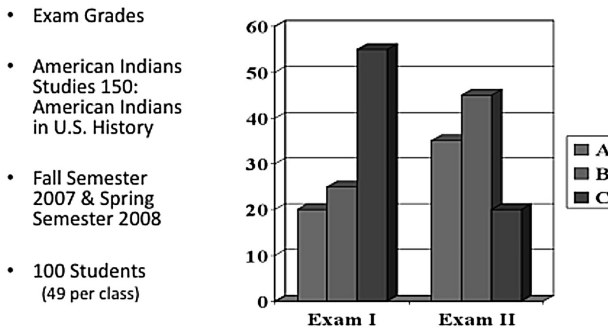
- 100 Students (49 per class)

FIGURE 1. *Baseline indicators of student performance without caption use during fall semester 2007 (left columns) and with caption use during spring semester 2008 (right columns).*

However, during the presentation of lectures and video materials prior to the second exam, which included consistent use of captions in all videos, discussions were very detailed. Students recalled specific names, dates, and places from the videos with greater frequency during both large and small group discussions. Discussion of video and reading materials together produced very interesting and lively debates—context specific—between Native American and Alaska Native students, as well as Native and non-Native students. Students also debated the similarities and differences between Native and mainstream American understandings colonization, culture, and history in the United States. Scores on the second exam also reflected this increased use of specific information. There was an overall increase in B and A grades, with an average B grade as opposed to the average C grade on the first exam (see figure 1, right columns). Likewise, the average grade for Native American and Alaska Native students—including those that had been officially diagnosed with a learning disability—increased from C+ to A−. These trends repeated throughout the second year of observations (see figure 2).
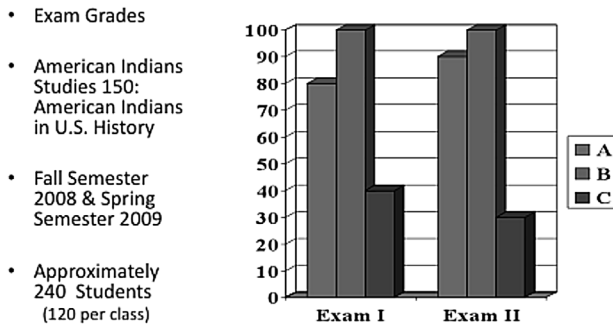
Observations Year II

- Exam Grades

- American Indians Studies 150: American Indians in U.S. History

- Fall Semester 2008 & Spring Semester 2009

- Approximately 240 Students (120 per class)

FIGURE 2. *Indicators of student performance with consistent caption use during the fall 2008 and spring 2009 semesters.*

As a researcher, my initial reaction to these trends was skepticism. Was an aspect of this observational study leading and skewed? Was the video material used in the second part of class easier? Was the video material used in this part of the class more entertaining? Upon further examination, the only hypothesis that could be reached was that this was a basic response from students being given a tool that assisted them in their educational experience. Final exam grades reinforced this assumption, as the same average grade trend observed after the second exam was repeated. Prior to the final exam, as prior to the second exam, captions were consistently used during the showing of course videos. Large and small group discussions were observed to be equally lively and specific course information as part of argument and debate could be heard with great force and effectiveness in usage.

Students who have taken "American Indian History in the United States" with me frequently comment in course evaluations on the very high standards that I keep—perhaps too high. While this bar may be high, it is there in order to make all students competent in their knowledge of the many roles that Native Americans and Alaska Natives have played in United States history and their incredible agency, definitely more than the average American. Student performance was not a reflection of a relaxed standard or grade inflation, but the fruits of academic rigor and genuine interest in the course material, which I found to be enhanced by a small effort to make the delivery of the information to all students more efficient. In fact, students throughout the semester—both learning disabled and abled alike—frequently commented on what a pleasure it was to have the captions with the videos. This resource aided them with the spelling of difficult Native American names and nations, anthropological,

archaeological, and historical terminology, and overall comprehension of what people said in the videos in general. For Native American and Alaska Native students, many were excited to see the names of places and towns written out in their ancestral languages, and that non-Native students were responsible for learning place-names in Native American and Alaska Native languages. These intriguing results have caused me to seek approval to continue this study from Human and Animal Protections of San Francisco State University's Institutional Review Board by tracking such trends over time in tandem with student feedback—to be obtained through person-centered ethnographic interviews—on their learning experience.[20]

Summary and Conclusion

When David Rose and Anne Meyer wrote *Teaching Every Student in the Digital Ages: Universal Design for Learning*, it seems that their goal was to stress the point that students who "do not fit the mold" still have strengths that can be cultivated by a flexible curriculum that enables all to learn effectively.[21] Rose and Meyer allude to a very important point that my observations corroborated: there is much that a professor at a teaching institution can do for students to reduce the barriers they face during the education process. Sometimes—as in this case—it is something as simple as adding captions to videos used pedagogically for all students. For Native American and Alaska Native students in higher education, regardless of learning style, these observations hold significant implications for ensuring their success. This minor implementation of a UDL technique into a curriculum may be a viable practice that enables them, and all students, to become more specific in their usage and discussion of video-based course material and the events covered within them, better note-takers, and thus better achievers on exams. This can all be done with a flexible curriculum that takes their needs into consideration, within an educational environment that does not emphasize a binary of abilities, but instead addresses a barrier to learning merely by implementing a resource that makes academic success a possibility for all.

NOTES

1. John M. Dodd and Ron Nelson, "Learning Disabled Adults: Implications for Tribal Colleges," *Journal of American Indian Education* 28, no. 3 (1989): 1.

2. David H. Rose and Anne Meyer, *Teaching Every Student in the Digital Age: Universal Design for Learning* (Association for Supervision and Curriculum Development, 2002): 1-5; Susan A. Vogel and Joan L. Sattler, *The College Student with a Learning Disability: A Handbook for College and University Admissions Officers, Faculty, and Administration* (DeKalb, IL: Illinois Council for Learning Disabilities, 1995): 1-5.

3. Peter R. Matthews, David W. Anderson, and Bruce D. Skolnick, "Faculty Attitude toward Accommodations for College Students with Learning Disabilities," *Learning Disabilities Focus* 3 (1987): 46–52.

4. Howard Adelman and Linda Taylor, *The Implementation Guide to Student Learning Supports in the Classroom and Schoolwide: New Directions for Addressing Barriers to Learning* (Thousand Oaks, CA: Corwin Press, 2006): 25-32; Frank G. Bowe, *Universal Design in Education: Teaching Non-Traditional Students* (London: Bergern and Garvey, 2000); John M. Dodd, Mike Hermanson, J. Ron Nelson, and Jerome Fischer, "Tribal College Faculty Willingness to Provide Accommodation to Students with Learning Disabilities," *Journal of American Indian Education* 30 (1990): 1; Matthew, Anderson, and Skolnick, "Faculty Attitude toward Accommodations," 46–52.

5. Rose and Meyer, *Teaching Every Student in the Digital Age.*

6. National Institute on Deafness and Other Communication Disorders (NIDCD), http://www.nidcd.nih.gov/health/hearing/pages/captions.aspx.

7. Robert J. Rickelman, William A. Henk, and Kent Layton, "Reading Technology: Closed-Captioned Television: A Viable Technology for the Reading Teacher," *The Reading Teacher* 44 (1991): 8.

8. William Neil Bender, *Differentiating Instruction for Students with Learning Disabilities: Best Teaching Practices for General and Special Educations* (Thousand Oaks, CA: Corwin Press, 2007): 19-28; Rose and Meyer, *Teaching Every Student in the Digital Age.*

9. John Boyd and E. A. Vader, "Captioned Television for the Deaf," *American Annals of the Deaf* 117 (1972): 34–37; Irene W. Leigh, *Psychotherapy with Deaf Clients from Diverse Groups* (Washington, DC: Gallaudet University Press, 1999); Margaret S. Jelinek Lewis and Dorothy W. Jackson, "Television Literacy: Comprehension of Program Content Using Closed Captions for the Deaf," *Journal of Deaf Studies and Deaf Education* 6, no.1 (2001): 51-52; National Captioning Institute, "Hearing Impaired Children's Comprehension of Closed-Captioned Television Programs," Research Report (1983), 83–85; Gwen C. Gugent, "Deaf Students' Learning from Captioned Instruction: The Relationship between the Visual and Caption Display," *The Journal of Special Education* 17, no. 2 (1983): 232; Rickelman, Henk, and Layton, "Reading Technology: Closed-Captioned Television," 8.

10. Sharon Baker, "The Native American Deaf Experience: Cultural, Linguistic, and Educational Perspectives" (PhD diss., Oklahoma State University, 1996); Walter Kelley, "Pueblo Individuals Who Are D/deaf: Acceptance in the Home Community, the Dominant Society, and the Deaf Community" (PhD diss., University of Texas at Austin, 2001); Damara G. Paris and Sharon Kay Wood, *Step into the Circle: The Heartbeat of American Indian, Alaska Native, and First Nations Deaf Communities* (Salem, OR: AGO Publications, 2002).

11. Patricia S. Koskinen, Robert M. Wilson, and Carl J. Jensema, "Closed-Captioned Television: A New Tool for Reading Instruction," *Reading World* 24 (1985): 1–7.

12. Milton Goldman and Sandra Goldman, "Reading with Closed-Captioned Television," *Journal of Reading* 31 (1988): 458–61; Rickelman, Henk, Layton, "Reading Technology: Closed-Captioned Television," 8.

13. Ruey Lin, Deborah LeCounte, and Jeanne Eder, "A Study of Native American Students in a Predominantly White College," *Journal of American Indian Education* 27 (1988): 8–15.

14. Goldman and Goldman, "Reading with Closed-Captioned Television," 458–61.

15. Sheryl E. Burgstahler and Rebecca Coy, *Universal Design in Higher Education: From Principles to Practice* (Cambridge: Harvard Educational Publication Group, 2008), 3.

16. Ibid., 6.

17. Ibid., 5.

18. Dodd and Nelson, "Learning Disabled Adults: Implications for Tribal Colleges," 1; Dennis R. Falk and Larry P. Aitken, "Promoting Retention among American Indian College Students," *Journal of American Indian Education* 23 (1984): 24–31.

19. *Ancient America: Eastern Woodlands*, produced and directed by Gary Warriner (Seattle, WA: Camera One, 2000) VHS; *Ancient America: Pacific Northwest*, produced and directed by Gary Warriner (Seattle, WA: Camera One, 2000) VHS; *Ancient America: Southwest*, produced and directed by Gary Warriner (Seattle, WA: Camera One, 2000) VHS; *Savagery and the American Indian*, directed by Ken Kirby and written by James Wilson (2000; Princeton, NJ: Films for the Humanities and Sciences), VHS; *Search for the First Americans*, NOVA, written and directed by Simon Campbell (Princeton, NJ: Film for the Humanities, 1992), VHS.

20. A person-centered ethnographic approach is different from other ethnographic approaches in that it takes individuals as active agents—not passive recipients—in their everyday lives. For a more detailed explanation, see Robert Levy and Douglas Hollan, "Person-Centered Interviewing and Observation in Anthropology," in *Handbook of Research Methods in Anthropology*, ed. Russell Bernard (Walnut Creek, CA: Altamira Press, 1998), 333–64.

21. Rose and Meyer, *Teaching Every Student in the Digital Age.*