

What Factors Facilitate Aboriginal Post-Secondary Success?

Overview

The objective of this question scan was to locate literature and policies devoted to the facilitation of Aboriginal postsecondary success. The Canadian Council on Learning employed a range of applicable search terms to four databases to identify and document the available relevant resources.

In total, 207 documents were identified in the initial search. A secondary review of these documents determined that 65 were suitable for final inclusion. Evidently, little empirical research identifies factors that facilitate Aboriginal success, and less still focuses directly on postsecondary students. Much literature *hypothesises* factors which *may* contribute to Aboriginal success: engaging, culturally relevant curricula; positive teacher expectations; strong support networks; anti-racism strategies; recognition of non-traditional relationships; and, increased financial assistance. However, little literature empirically examines how effectively various programs and methods actually contribute to Aboriginal student success.

Articles which do engage in empirical methodologies are generally from the United States, and examine factors that facilitate Aboriginal success on standardized tests. One Canadian empirical article (Duncan & Sokal, 2003) explores how various aspects of identity and mobility influence Aboriginal success.

The most comprehensive study pertaining to Aboriginal postsecondary success is a report produced by R. A. Malatest & Associates (2004) "Aboriginal Peoples and Post-Secondary Education: What Educators have Learned." Combined with some of the qualitative Canadian literature it would provide a good starting point for further analysis, and a more comprehensive understanding of the issues specifically related to Canada. This qualitative literature provides examples of particular programs that seem to be working well in various parts of Canada. Finally, a complete review would include the descriptive articles which document Aboriginal students' perceptions of the factors that contribute to their success.

Observations

Quantitative: 7 articles- Included under this heading is any scholarly literature that marshals statistical evidence to make its case. Although some articles may have policy relevance, most are from the United States and address factors which facilitate Aboriginal student success on standardized tests. One Canadian article examines three factors which have been hypothesized as having influence over Aboriginal success: 1) aboriginal language facilitation; 2) information taught about Aboriginal people in elementary school; and, 3) the number of high schools an Aboriginal student has attended (Duncan & Sokal, 2003). Keith James 2001 article "*There are Doorways in These Huts: An Empirical study of Educational Programs, Native Canadian Students Needs, and Institutional Effectiveness in British Columbia and Ontario, Canada*" focuses on the different approaches that may facilitate success in Aboriginal postsecondary students in Canada. His study found the following program characteristics as being significant

predictors of expert-rated institutional quality in educating Aboriginal students; 1) Number of native Canadian faculty members at an institution; 2) The presence or absence of a Native Canadian Advisory Board; 3) Lend Native-focus to mainstream degree programs.

Qualitative: 35 articles- Included under this heading are descriptive case studies, narratives and interviews, generally published in academic journals. These articles examine the characteristics of educational programming that might influence Aboriginal success. Articles often include interviews with faculty members, school administrators and Aboriginal students themselves, uncovering their perceptions of the factors that facilitate Aboriginal success. One Canadian article which consists of interviews with Aboriginal students is Bazylak's "*Perceptions of Five Female Aboriginal High School Graduates*" (2002). This article uses Aboriginal methodology to determine factors of Aboriginal Educational Success. Hampton and Roy's article "*Strategies for facilitating Success of First Nations Students*" (2002) includes interviews with both faculty and Aboriginal students and uses a triangulation of data collection methods which included focus groups and narrative inquiry so as to combine group-constructed experiential data with personal experience and stories.

Editorials: 11 articles- These are position or opinion papers that provide descriptive information elucidating the gap between Aboriginal and Non-Aboriginal students. Many of these articles highlight racism and discrimination as factors impeding Aboriginal success. These articles also suggest factors that may facilitate Aboriginal student success such as the need for more socially and culturally oriented programs. An article by Alcorn & Levin (1998) entitled "*Post-secondary education for indigenous populations*" highlights Aboriginal "Access programs" such as the one in Manitoba (Canada) that have promoted high postsecondary success rates among people largely from Indigenous populations.

Reviews: 4 articles- Included under this heading are articles that review the literature that examines factors which influence the access and achievement of Aboriginal students. One article (Collier, 1993) reviews the literature on Aboriginal learning styles and appropriate teaching styles. Another (Herring, 1998) reviews concerns in counselling services for Aboriginal peoples. A third (McGee & Cody, 1995) presents the culture conflict for Aboriginal students in a non-Aboriginal society. Finally, an extensive literature review by Pavel (1999), examines factors that influence the access and achievement of American Indians and Alaska Natives in higher education.

Reports: 8 articles- These are government-produced studies including comprehensive views of the current situation in Canada. They tend to offer more potentially relevant implications for public policy. Some of the reports also include useful examples of strategies used in places like New Zealand.

One report *Aboriginal Peoples and Post-secondary Education: What Educators Have Learned* (January 2004) by R. A. Malatest & Associates Ltd. provides useful qualitative information regarding Aboriginal postsecondary students in Canada, and Indigenous

students in Australia and New Zealand. The report seeks to identify all the barriers to Aboriginal postsecondary success (historical, social, geographical, cultural and personal). It then discusses issues surrounding funding for Aboriginal students and concludes by offering the following strategies for Aboriginal post-secondary education: access programs; Aboriginal institutions, partnerships between Aboriginal and non-Aboriginal institutions, Aboriginal –centred programs for mainstream institutions, curriculum development, Aboriginal languages, science and health initiatives; student supports; and alternative assessments.

The authors also observe the lack of quantitative data regarding factors that facilitate Aboriginal success. The factors they identify as affecting Aboriginal success, are as follows:

- Representation by Aboriginal people in schools
- Resources such as tutorials, orientation workshops, personal support/counselling, housing assistance, childcare assistance, university urban adjustment assistance, career counselling (within reason-must be careful they don't divert attention from more fundamental needs)
- Aboriginal Governance (Aboriginal run institutions, partnerships between Aboriginal and non-Aboriginal institutions and Aboriginal-geared programs at mainstream institutions.)
- Community context and participation (working with Aboriginal communities)
- Alternative Education
- Voices of Aboriginal Youth in School (Recommendations from the students themselves).
- Cultural Education and Language
- Teacher Quality
- Educational Aspirations
- Racism and Discrimination
- Time Flexibility
- Social and Economic Sensitivity

The report also consists of a lengthy bibliography.

Further Pervasive Themes

Several of the articles reviewed discuss a common set of factors that facilitate Aboriginal success. Factors and recommendations crosscutting the articles include:

- Positive teacher expectations and support
- Engaging curriculum and cultural relevance
- Anti- racism strategies
- Social support networks
- Recognition of non-traditional leadership skills
- Financial assistance
- Recognition of the need for long and short term goals

- Aboriginal language facility
- Recognition of Aboriginal students needs as stated by Aboriginal students themselves

General policy recommendations suggested included:

- Assisting Euro-Canadian teachers attain necessary cultural tools for putting into practice socially and culturally oriented programs
- Developing culturally relevant training programs
- Recognizing university degree credit for completion of certificate programs
- Assisting in dealing with cultural conflict and racism
- Employing of Aboriginal teachers
- Adopting programs and pedagogies that involve students and parents directly in learning situations
- Increasing higher expectations in teachers than are observed in conventional classrooms
- Integrating Aboriginal culture through all aspects of programming and school culture

Articles discussing policy, programs and strategies—implied success:

Eight of the articles reviewed provide examples of programs and strategies used in both Canada and the United States to help facilitate Aboriginal success. “Success” is implied through both academic achievement and school maintenance.

Specific programs and successes include:

- **“Access programs” (Manitoba):** Programs have promoted high postsecondary success rates among people, largely from the indigenous population, with poor histories of educational success
- **Two pilot programs at John Abbott College (Quebec):** Programs designed to increase the success of Inuit and Cree students.
- **University of Calgary (Alberta):** Outreach program-served to foster a very positive influence toward higher education in Aboriginal homes and communities.
- **Native Canadian educational programming (British Columbia and Ontario):** Various programs that might influence Aboriginal student success.
- **Nizhoni Academy (United States):** Five week summer program that provides academic support services and direct instruction to Aboriginal students in order to better prepare them to becoming academically successful in either college or university
- **Mayo Minority Scholar Program (United States):** Program helps American Indians become doctors, medical faculty or biomedical researchers by matching students to mentors.
- **Three Basic strategies (United States):** Three strategies used by two Navajo schools for empowering practices of educational assessment are outlined.

- **Dartmouth College – Native American Studios Program (United States)**
Program provides students with cultural, social, and academic support. Has produced impressive results as regards to the number of Native Americans receiving bachelor's degrees.

Summary

Although all of the articles suggest approaches that facilitate Aboriginal postsecondary student success, little empirical research highlights exactly what these factors are and how they operate. Nonetheless descriptive articles which include the voices of Aboriginal people (Bazylak, 2002; Reyes, 2001; Te Hennepe, 1993; Wotherspoon and Schissel, 1998) should be included in any review as a guideline towards the areas the students themselves see as being worthy of particular attention.

Feasibility:

The volume and diversity of the literature in this domain is not sufficient to warrant a systematic review of the literature.

Appendix A – Included References

References - Canada

Agbo, S. A. (2004). First Nations Perspectives on Transforming the Status of Culture and Language in Schooling. *Journal of American Indian Education*, 43(1), 1-31.

One of the challenges facing Aboriginal education is how to enhance Aboriginal students' achievement through culturally responsive pedagogies. The issue involved is not merely that of methods of teaching and learning but of acquiring the necessary tools for shaping and implementing a socially and culturally oriented curriculum that recognizes Aboriginal local resources in context and reinforces and maximizes their use in education to make school learning an integral component of the social and cultural context of Aboriginal children's heritage. This paper is about First Nations' perspectives, opinions and attitudes about the status of language and culture in schooling and their suggested strategies to revitalize and preserve First Nations cultures. The paper concludes that the issue involved is not merely one of cultural education of students but also of helping Euro-Canadian teachers to attain the necessary cultural tools for determining and putting into practice a socially and culturally oriented program.

Alcorn, W., & Levin, B. (1998). *Post-Secondary Education for Indigenous Populations*. Canada; Manitoba:

Indigenous populations throughout the world have been deprived of opportunities for advanced education, thus limiting their ability to participate fully in their societies. For 25 years, "Access programs" in Manitoba (Canada) have promoted high postsecondary success rates among people, largely from indigenous populations, with poor histories of educational success. Each Access program provides education for a selected group of previously excluded learners, leading to a specific diploma or degree granted by a Manitoba university or community college. Access programs go beyond equality of access to provide "equality of condition" through student support services. Principles and practices that have proven effective in maintaining success rates are described for the areas of student recruitment, the selection process, integration of student supports, financial support, academic support and remediation, and personal supports. Despite evaluations confirming the effectiveness of the programs, federal and provincial funding has declined considerably since the late 1980s. In addition to a graduation rate of 40 percent (compared to 5 percent for Aboriginal students nationwide), Access programs have contributed to Aboriginal community development and the transition of Aboriginal students to graduate programs. Recent developments in Aboriginal higher education include cooperative arrangements with First Nations, development of culturally relevant training programs to meet specific needs, and recognition of university degree credit for completion of certificate programs.

- Association of Canadian Community Colleges. (July 2005). *Meeting the Needs of Aboriginal Learners-An Overview of Current Programs and Services, Challenges, opportunities and Lessons Learned*. Canada: Association of Canadian Community Colleges.
- Axelrod, P. (1999). *The uncertain future of liberal education*. Retrieved September 26, 2005 from http://www.caut.ca/en/bulletin/issues/1999_sep/99_oct/commentary.htm
- Bazylak, D. (2002). Journeys to success: Perceptions of five female aboriginal high school graduates. *Canadian Journal of Native Education*, 26(2), 134.
This article outlines the results of a qualitative research study of five Aboriginal girls in grade 12 at a Catholic high school in Saskatoon, Saskatchewan. Using a discursive narrative method in the form of sharing circles, the researcher identified factors that contribute to the success of Aboriginal students in high school. The sharing circle format provided an appropriate cultural method of collecting data, which over two group sessions offered rich stories and experiences of the participants. Their collective voice identified several features as sources of success including family support, teachers' expectations and support, engaging curriculum and cultural relevance, and others.
- BC Stats. (2005). *The Educational Attainment of Aboriginal Peoples: Part II Post-secondary Completion*. Tech. Rep. Canada: BC Stats.
- Berger, A. (1994). The Education of Canadian Indians: an in-depth study of nine families [Reprint]. *Alberta Journal of Educational Research*, 40(4), 448.
- Brade, C. R. M., Duncan, K. A., & Sokal, L. (2003). The Path to Education in a Canadian Aboriginal Context. *Canadian Journal of Native Education*, 27(2), 235.
The researchers are members of the white mainstream who wish through research to gain a better understanding of the Aboriginal reality and hope to assist this heterogeneous group in its quest for self-determination and access to the majority culture. This article constitutes a section of thesis research and examines the associations between retention/identification with ethnicity, various aspects of identity formation, and mobility on levels of academic achievement of Canadian Aboriginal people. A secondary analysis of a sample of 636 respondents to the 1991 Aboriginal Peoples Survey was conducted. The variables examined include: participation in ethnic activities and Native language(s); having Aboriginal teachers; Aboriginal language(s) being used in the classroom; Aboriginal language facility; liking what was taught in school about Native people and history; and number of schools attended. Both bivariate and multivariate analyses indicated significant relationships between educational attainment and Aboriginal language facility, liking what was taught about Aboriginal people in elementary school, and number of high schools attended. Recommendations for future research include the use of more precise data on the variables of interest in order to predict confidently the factors that affect educational achievement among Canada's Aboriginal people.]

Collier, L. (1993). Teaching Native Students at the College Level. *Canadian Journal of Native Education*, 20(1), 109-117.

Describes two pilot programs at John Abbott College (Quebec) designed to increase the success of Inuit and Cree students. Reviews the literature on Native learning styles and appropriate teaching styles. Reflects on the (non-Native) author's experience teaching Native college students, the importance of the teacher-student relationship, and the risk of creating new stereotypes based on the literature.

Council of Minister of Education Canada. (October, 2003). *Access, Inclusion and Achievement: Closing the Gap Country Response: Canada Fifteenth Commonwealth Conference of Education Ministers, Edinburgh, Scotland*. Canada: Council of Minister of Education Canada.

Friesen, J. W. (1986). *Teaching in the Native Outreach Program at the University of Calgary*. Canada; Alberta:

In 1972 the University of Calgary began an outreach program involving students at the Stoney Indian Reservation at Morley, which is located 35 miles west of Calgary. Later, the program was expanded to include several other Indian reserves. In the fall of 1986, the university graduated the 100th Native student, many of whom had taken training in the outreach program. In addition, the Native Student Services resources available on campus which are part of the Native Centre have sustained many Native students and served to foster a very positive influence toward higher education in their home communities. This report provides a history of the outreach program's 15 years of operation, noting problems and poor decisions as well as accomplishments. The concluding section proposes essential indicators of program success including respect for Native values, philosophy of biculturalism, emphasis on all aspects of personal development, and acceptable academic standards.

Fuzessy, C. (2003). An Investigation of Teachers' Role Definitions in Nunavik. *Canadian Journal of Native Education*, 27(2), 195.

This study examines perceived teacher role definitions in educating Inuit students in Nunavik. Recent work in Aboriginal, critical, and anti-racism education, along with the Cummins model, build on poststructural theory and constitute the conceptual framework of this research project. The methodology includes individual interviews, short-answer questionnaires, and Likert-scale questionnaires completed by a group of former Kativik School Board members. The data suggest that teacher role definitions may have both positive and negative effects on Inuit students through their classroom and community interactions.

Hampton, M., & Roy, J. (2002). Strategies for Facilitating Success of First Nations Students. *Canadian Journal of Higher Education*, 32(3), 1-28.

This research suggests guidelines for college instructors which could help them facilitate success of First Nations students based on written narratives and data from four focus groups: (1) two groups of First Nations students; (2) two Faculty of Arts focus groups consisting of professors from the Saskatchewan Indian Federated College and the University of Regina who were identified as effective teachers of

First Nations students. Data analysis revealed five themes that identify strategies that individual faculty members, as well as university program groups can use to create more positive learning environments for First Nations students: (1) enhancing the professor-student relationship; (2) including relevant First Nations content in curriculum; (3) using flexible teaching methods; (4) adopting a more culturally-appropriate teaching style; and (5) gaining an understanding of the unique life of a postsecondary First Nations student. Cette recherche propose aux enseignants du niveau collegial des directives propres a faciliter le succes d'etudiants des Premieres Nations, recherche basee sur des recits ecrits et des renseignements recueillis de quatre groupes de discussion: (1) deux groupes d'etudiants des Premieres Nations; (2) deux groupes de la Faculte des Arts composes de professeurs au College Indien Federe de la Saskatchewan et a l'Universite de Regina, qui ont ete identifiees comme enseignants efficaces aupres d'etudiants des Premieres Nations. L'analyse des donnees revele cinq themes qui font ressortir des strategies que les membres du corps enseignant ainsi que les programmes universitaires peuvent utiliser pour creer des milieux d'apprentissage plus positifs pour les etudiants des Premieres Nations: (1) le rehaussement de la relation professeur-etudiant; (2) l'inclusion dans le curriculum de contenus pertinents aux Premieres Nations; (3) l'utilisation de methodes d'enseignement plus flexibles; (4) l'adoption d'un style d'enseignement plus flexible. Reprinted by permission of the publisher.

Human Capital Strategies. (June 30, 2005). *Review of Aboriginal Post-secondary Education Programs, Services and Strategies/ Best Practices & Aboriginal Special Projects Funding (ASPF) Program*. Victoria, Canada: British Columbia, Ministry of Advanced Education.

Hurlburt, G., & Others. (1990). Teaching Attitudes and Study Attitudes of Indian Education Students. *Journal of American Indian Education*, 29(3), 12-18.
A survey of 52 American Indian education students in Manitoba revealed that they preferred a structured teaching style with strong teacher control and submissive learners, an attitude contrary to the needs of Indian students. In addition, subjects' study habits suggested negative views of teachers and education.

James, K. (2001). There Are Doorways in These Huts: An Empirical Study of Educational Programs, Native Canadian Student Needs, and Institutional Effectiveness in British Columbia and Ontario, Canada. *Journal of American Indian Education*, 40(3), 24-35.
A study examined characteristics of Native Canadian educational programming that might influence Native student success at 27 colleges and universities in British Columbia and Ontario. Presence or absence of an advisory board composed of Native community members, numbers of Native faculty members, and how well institutional systems fit with Native students' cultures and communities were significant predictors.

Johnson, G. M., & Boehm, R. (1995). Aboriginal Canadian University Students: A Comparison of Students Who Withdraw and Students Who Continue. *Australian Journal of Adult and Community Education*, 35(2), 141-156.

A comparison of 24 Canadian aborigines who withdrew from college and 25 who persisted showed that withdrawers were often nonmatriculated, lacked time management skills, frequently missed class, worked over 25 hours per week, felt lonely and alienated, had family problems, and socialized excessively. (SK)

Kajander, A. (2003). Mathematics Education Reform and Disadvantaged Preservice Teachers: A Case Study of a First Nations Student. *The Educational Forum*, 67(3), 258-264.

A case study of a First Nations student illuminates some of the challenges faced by minority teachers. The participant in the study was a female preservice Aboriginal teacher enrolled on a mathematics course for preservice elementary teachers at a relatively small university in Northern Canada. The student was initially nervous and scared and reported difficulties with her classwork. However, she seemed to reach a turning point following extensive work with Logo to create fractals and designs inspired from her Native art. In addition, it was clear that writing in her journal and on assignments was important to the student, as was working in groups with her classmates. The student made great progress in improving technical skills, as well as her problem-solving and investigative ability.

Malatest, R. A. (January 2004). *Aboriginal Peoples and Post-secondary Education: What Educators Have Learned*. Montreal, Quebec: Canada Millennium Scholarship Foundation.

Malatest, R.A. & Associates. (May, 2002). *Best Practices in Increasing Aboriginal Postsecondary Enrolment Rates*. Canada: Council of Ministers of Education, Canada.

Richardson, C., & Blanchet-Cohen, N. (2000). Postsecondary education programs for Aboriginal peoples: Achievements and issues. *Canadian Journal of Native Education*, 24(2), 169.

This article presents some of the unique postsecondary programs that have been established to meet the distinct needs of Aboriginal peoples in Canada. The case studies presented in the article point to the variety of programs and models for educational delivery. In critically examining the case studies, special reference is made to how these are designed in relation to add-on, partnership, and First Nations control approaches. As indicated in this research, postsecondary education programs for Aboriginal peoples are rapidly evolving: the developments are impressive, yet many challenges remain. Fundamental questions exist at the center of the debate for First Nations educators and programmers. How does one implement the goals of postsecondary education? What are the criteria for evaluating postsecondary education? How can postsecondary education address both the need for more people with degrees and the need for higher education that is culturally grounded and provides students with the tools to transmit their culture? In assessing the situation of

postsecondary education for Aboriginal peoples in the final section, the authors address these questions in the following areas: access and rates of completion, Indian control of Indian education, and relevance.

Robinson, M. J. (1994). Reflective evaluation and development: two Labradorians work toward a productive evaluation model for Aboriginal educators. *Canadian Journal of Education*, 19(2), 142.

Concurrently, the vast majority of Aboriginal students who enrolled to become educators last year will have dropped out by year's end, despite a severe shortage of Aboriginal educators in their home communities. Menton (1990) estimates the drop out rate for educators - in - training at Arctic College, Northwest Territories, to be in excess of 50%. Although the education system has for some time been aware of the urgent need to have more Aboriginal educators working with Aboriginal students, shortages of qualified Aboriginal educators persist. Archibald (1986) calculated that if the Aboriginal population had been proportionally represented in British Columbia in 1974, there would have been 1,300 Aboriginal educators. There were 26. The education system seems unable to enlist many Aboriginal candidates and those few Aboriginal educators that pursue a Bachelor's degree quit with predictable regularity. Why is this? Although the number of Aboriginal educators in the system is abysmally low, Aboriginal educators also face "the danger of being evaluated out of the profession" (Lipka, 1990a, p. 40). We may soon lose the few that we have unless we recognize their needs as professionals. And just as the lack of successful students exacerbates the lack of role models for younger students, the lack of successful Aboriginal educators makes the road for new ones increasingly difficult. For the most part, they remain professionals who are minorities in their own culture, as they practise surrounded by southern - based colleagues. And if they dare to venture farther afield, to teach in a mainstream setting, they risk becoming a curiosity. The Native Indian Teacher Education Program (NITEP) celebrated placing its first regular classroom educator in the Vancouver School District in 1986, just seven years ago (Archibald, 1986, p. 44). This is cause for celebration for NITEP -- one of the most successful Native teacher education programs in the country. In Canadian society as a whole, however, it is surely cause for dismay that so few mainstream students will be enriched by the perspective of a Aboriginal educator. Perhaps part of the problem is the manner in which we have been evaluating Aboriginal educators, which at worst has removed educators from the system and at best has left them feeling isolated and inadequate. My purpose in this article is to develop an alternative model of evaluation for Aboriginal educators, one that would honour the fundamental characteristics of successful Aboriginal education -- peer learning, a strong oral tradition, and a holistic approach to learning -- and which would attempt to be inclusive rather than exclusive, stressing a high level of educator independence and relying on the educator to direct the process. I refer to this process as reflective evaluation and development. Reflective evaluation and development represents a further broadening of the evaluation spectrum. Originally, evaluation of educators focused narrowly on summative issues. Gradually it expanded to include formative methods. Clinical supervision suggested a shift of control of the evaluation agenda, from the supervisor to the practising professional. It maintained, however, strict

definitions of process. Finally, reflective evaluation opens the door to examine issues of concern to the educator, addressed through a variety of means that suit a particular context, namely, the educator's classroom and unique concerns. In my study I took the position that if Aboriginal educators think and learn differently this would be reflected in their practise. Indeed, I found that many problems experienced by Aboriginal students are now re-emerging in Aboriginal teaching training. And in response to the continuing lack of success of Aboriginal students in mainstream schools, Lipka (1990a) suggests "we have been looking in the wrong places for solutions" (p. 9). Lipka maintains that for decades we have been asking why Aboriginal students have difficulty learning, yet rarely considering the educators delivering the instruction and their methods. Instead of asking why Aboriginal students cannot learn, we need to ask why we cannot or will not teach Aboriginal students in a manner yielding results in which both parties can take pride.

Statistics Canada. *Aboriginal Peoples In Canada's Urban Area--Narrowing the Education Gap* No. No. 81-004-XIE). Canada: Statistics Canada.

Te Hennepe, Sheila. (1993). Issues of Respect: Reflections of First Nations Students' Experiences in Postsecondary Anthropology Classrooms. *Canadian Journal of Native Education*, 20(2), 193-260.

Twelve First-Nations teacher-education students at the University of British Columbia were interviewed concerning experiences in anthropology classes. Students were disturbed by instructors' authoritative presentations of First Nations issues, presentations that did not correspond with students' knowledge and experience. Analyzes the process of constructing meaning about cross-cultural information as it passes from ethnographer to faculty to students.

Wotherspoon, T. & Schissel, B. (December, 1988). *Marginalization, Decolonization and Voice: Prospects for Aboriginal Education in Canada*. Canada: Council of Ministers of Education.

References - USA

Aragon, S. R. (2004). Learning and Study Practices of Postsecondary American Indian/Alaskan Native Students. *Journal of American Indian Education*, 43(2), 1-18. This study examined the learning and study practices of postsecondary American Indian/Alaska Native students attending community colleges in the southwest. Using a survey design, students completed the Kagan Matching Familiar Figures Test, the Schmeck, Ribich, and Ramanaiah Inventory of Learning Processes, and the Weinstein, Palmer, and Schulte Learning and Study Strategies Inventory. Results revealed that students had, at best, average learning and study skill abilities in and outside the classroom. Out of the 14 skills assessed, only four were identified to be at the "moderate or average" ability level. These included information processing, self-testing, use of study aids, methodical study, and elaborative processing. Three of

these skill areas bordered "low/moderate" ability. These included level of motivation, ability to select main ideas, and fact retention. Six of these skill areas were identified to be at the "low" ability level. These skills included attitude, use of test strategies, concentration, level of anxiety, time management, and deep processing. Based on the results, recommendations are provided to institutions and faculty for facilitating the improvement of these learning and study strategies.

Betz, D. (1991). *International Initiatives and Education of Indigenous Peoples: Teaching and Learning to "Dance in Two Worlds."* U.S.; Oklahoma:

This paper discusses international initiatives concerning the rights of indigenous people, particularly the education of American Indians. Select United Nations and other international organizations continue to demonstrate genuine concern for the survival, growth and development of indigenous peoples. Many international efforts are in preparation for the United Nations designated "Year of Indigenous Peoples" in 1993. Education is high on the list of challenges faced by indigenous peoples. Education extends awareness and appreciation of the culture among its members and prepares indigenous peoples for productive and effective roles in the dominant economy. Recent studies of American Indian education contend that the integration of American Indian language and culture into the regular school curriculum is critical to improving student achievement. College faculty members can play a crucial role in the cultural awareness and retention of Indian college students. Helpful guidelines for interacting with Indian students include: (1) understanding and dealing with racism; (2) recognizing non-traditional leadership skills; (3) recognizing the need for a strong support person; (4) recognizing the need for long-range and short-term goals and objectives; (5) recognizing the need for understanding self; and (6) recognizing the need for a positive self-image. Faculty should also consider aspects of Indian culture which are relevant to learning such as a strong oral tradition and a preference for synthesis of information rather than rote learning.

Brown, D. (2003). Tribal Colleges: Playing a Key Role in the Transition from Secondary to Postsecondary Education for American Indian Students. *Journal of American Indian Education*, 42(1), 36-45.

Tribal colleges were created to provide access to quality higher education for American Indians. One of the goals of tribal colleges is to prepare students for further study at mainstream institutions when their program of study is not available at the tribal college level. The unique benefits of attending tribal colleges include the convenience of being able to remain close to home and family, the cultural components of the tribal college curriculum, and a strong sense of community. This study affirms, from the student's perspective, the reasons American Indian students benefit from attending tribal colleges. The primary method of data collection in this qualitative study was in-depth interviewing. The article concludes with recommendations to ease the transfer process for those students who intend to transfer to a mainstream institution after their tribal college experience.

Dingman, S. M., Mroczka, M. A., & Brady, J. V. (1995). Predicting academic success for American Indian students. *Journal of American Indian Education, 34*, 10-17.

Given the difficulties inherent in assessing children with instruments normed for another culture, the failure of early efforts to devise culture-fair tests, and the lack of predictive validity for noncognitive measures for American Indians, finding a means for predicting academic success for this population remains problematic. This investigation found that one important measure of academic success for American Indian students (quarters of college enrollment), was a significant covariate of performance on three tests of simultaneous processing (Localization, Form Completion, and Orientation). It is suggested that these, or similar sorts of tests, may be valid predictors of academic potential for the American Indian population. These tests are seldom included on the most widely used standardized intelligence tests.

Ducheneaux, T., & McDonald, J. D. (1999). Biculturalism and Native American College Students' Performance on the WAIS-III. (Doctoral dissertation, University of North Dakota). , 71. (EDRS Price MF01/PC03 Plus Postage.)

This study investigated the impact of cultural identification of Native American college students on the Wechsler Adult Intelligence Scale-Third Edition (WAIS-III). It assessed the relationship between cultural identification and cognitive-testing scores between a group of off-reservation students attending the University of North Dakota (UND) and an on-reservation group at the tribal college, Oglala Lakota College. The results provide some clues to understanding the relationship between cultural orientation and measured intelligence. Findings show that the traditional group scored higher on the Verbal Intelligence Quotient (IQ) and the assimilated group scored higher on the Performance IQ. This is possibly due to the fact the UND group scored higher on the Verbal IQ and also identified themselves as more traditional than the Oglala College group, who scored lower on the Verbal IQ. One limitation of the study is that the subjects were in college; therefore the results may not generalize to real-world settings.

Fowler, B. D. (1995). Education through Experience. *Winds of Change, 10*(1), 43-45.

Describes the Langley Aerospace Research Summer Scholars Program, a 10-week internship program for junior and senior undergraduates and first-year graduate students who are pursuing degrees in engineering or science. The program enables participants to conduct research under the supervision of NASA scientists and engineers. Profiles American Indian students who have benefited from the program.

Gilbert, W. S. (2000). Bridging the gap between high school and college. *Journal of American Indian Education, 39*(3), 36-58.

The purpose of this study was to determine the effects of culturally appropriate English, mathematics, and career development curriculum on American Indian sophomore and junior high school students' academic achievement in a five-week summer program called Nizhoni Academy. The sample for this study consisted of 135 high school students: 39 males and 96 females. The sample included 103 Navajos, 24 Hopis, and 8 students who represented other American Indian Nations. The purpose of the Nizhoni Academy was to provide academic support services and

direct instruction to educationally disadvantaged secondary students attending rural high schools on or near the Navajo and Hopi reservations in northeastern Arizona and New Mexico. The goals of the program were threefold: (a) to acquaint the American Indian sophomore and junior students to the rigors of college/university life, (b) to prepare students for continued academic success in high school, and (c) to provide an academic "bridge" that would better prepare Native secondary students in becoming academically successful in either the college or university.

Gloria, A. M., & Kurpius, S. E. R. (2001). Influences of Self-Beliefs, Social Support, and Comfort in the University Environment on the Academic Nonpersistence Decisions of American Indian Undergraduates. *Cultural Diversity & Ethnic Minority Psychology, 7*(1), 88-102.

The decisions of 83 American Indian undergraduates to drop out of school were investigated based on the influence of their self-beliefs, social support, and comfort. Although all three accounted for academic nonpersistence decisions, social support was the strongest predictor. Discusses implications for increasing academic persistence of students, such as fostering mentoring relationships and providing interventions to increase social support.

Herring, R. D. (1998). Native American Indian College Students: Implications for College Counseling Practice. *Journal of College Counseling, 1*(2), 169-180. Counselors can enhance the development of Native-American college students by revisiting how they deliver services. Awareness of traditional Native-American values, interpretation of mental health, and indigenous healing practices is recommended. Content and process concerns in counseling are reviewed.

Hornett, D. (1989). The Role of Faculty in Cultural Awareness and Retention of American Indian College Students. *Journal of American Indian Education, 29*(1), 12-18.

Presents practical suggestions regarding how college faculty can promote the success of American Indian college students by recognizing and dealing with racism, recognizing nontraditional leadership skills, providing personal support, clarifying goals and expectations, and encouraging students' self-understanding and positive self-image.

House, J. D. (2003). A Longitudinal Assessment of Cognitive-Motivational Predictors of the Grade Performance of American Indian/Alaska Native Students. *International Journal of Instructional Media, 30*(3), 303-314.

Recent instructional design approaches have discussed the important of students' self-beliefs for effective learning outcomes. Concern has been expressed regarding the educational attainment of American Indian/Alaska Native students and several suggestions have been made for designing effective instructional experiences for American Indian/Alaska Native students by considering factors such as learning styles and cultural values. The purpose of this study was to investigate the relationship between initial self-beliefs and the subsequent instructional outcomes of American Indian/Alaska Native students. Students included in this study were a

sample of 160 American Indian/Alaska Native students who completed a survey that assessed their high school experiences, achievement expectancies, and self-beliefs. There were several significant findings from this study. Several specific facets of academic self-concept and achievement expectancies were significant predictors of two measures of academic performance. These results indicate that initial self-beliefs were significantly related to the instructional outcomes of American Indian/Alaska Native students and should be given consideration when designing effective educational experiences.

Huffman, T. (2001). Resistance theory and the transcultural hypothesis as explanations of college attrition and persistence among culturally traditional American Indian students. *Journal of American Indian Education, 40*(3), 1-23.

This paper reports the findings of a qualitative research investigation on the educational experiences of 69 American Indian college students. Specifically, the data involving two groups of culturally traditional students (estranged students and transculturated students) are considered. Estranged students are culturally traditional American Indian students who experienced intense alienation while in college and, subsequently, fared poorly academically. Conversely, transculturated students are also culturally traditional students. However, these students overcame acute alienation and generally experienced successful college careers. After an examination of the dominant theoretical perspectives on American Indian educational achievement and attrition, the findings of the research are extended to new theoretical considerations: resistance theory and the transculturation hypothesis.

Huffman, T. E., Sill, M. L., & Brokenleg, M. (1986). College achievement among Sioux and white South Dakota students. *Journal of American Indian Education, 25*, 32-38.

This investigation relates several social, cultural, and aspirational factors to college achievement among Sioux and white students. Analysis indicated that college achievement for whites is related to social factors, such as, high school GPA and parental encouragement to attend school, whereas, retention of native cultural traditions seems to contribute to higher educational success for Sioux students.

Jenkins, M. (1999). Factors which Influence the Success or Failure of American Indian /Native American College Students. *Research and Teaching in Developmental Education, 15*(2), 49-53.

Examines the culture-specific needs of Native-American students in higher education. Identifies family support, student-support services, and precollege preparation as factors contributing to academic success, and finances and cultural differences as contributing to failure. Asserts that developmental educators must be aware of these factors in order to facilitate these students' success.

Lin, R., & Others. (1988). A Study of Native American Students in a Predominantly White College. *Journal of American Indian Education, 27*(3), 8-15.

Examines feelings of alienation, attitudes toward college and teachers, academic achievement, and expectations of graduation among 87 American Indian and 508 White students at a predominantly White college. Concludes that alienation is

common among American Indian students and affects grade point average more than other factors studied.

Little Soldier, L. (1989). Cooperative learning and the Native American student. *Phi Delta Kappan*, 71, 161-163.

Native American students may learn more easily in a cooperative environment than in a classroom where students compete against each other and the teacher wields authority. Most educators now understand that curricula must relate to the students' cultural background, and the same principle applies to teaching methods. Native American cultures emphasize cooperation, sharing, respect for individual dignity, an internal locus of control, and harmony with the world. Students from these cultures often excel at getting along with others, working in groups, taking turns, and sharing, but schools rarely acknowledge or reward these strengths. If the teacher sets up teams of four or five students of varying abilities, however, they are usually able and willing to help each other. Classroom noise and student movement may increase, but the students' achievement and sense of autonomy will probably improve.

Macias, C. J. (1989). American Indian academic success: the role of indigenous learning strategies. *Journal of American Indian Education*, , 43-52.

Eleven American Indian women enrolled in a MSW program participated in an interview study designed to identify effective learning strategies. Most of the women reported relying on writing and verbalization as study strategies and preferred essay tests to multiple-choice or true-false tests. This preference for essay tests was linked in the interviews to a strong ability to synthesize knowledge, a cognitive skill identified by researchers as characteristic of Indian people. The women also described themselves as good listeners and as being reluctant to pass judgment before careful, subjective reflection, behaviors which are also characteristic of Indians. These women's introspective reports and high academic performance are evidence that there are distinctive Indian cognitive strengths that facilitate graduate school success.

McGee, R., & Cody, H. H. (1995). Cultivating Mentors. *Winds of Change*, 10(3), 32-34.

Describes the Mayo Minority Scholars Program, which helps American Indian and other minority students become doctors, medical faculty, or biomedical researchers by matching them with appropriate mentors. Relates the authors' perspectives and experiences as mentor and student. Includes program and contact information.

McIntosh, B. J. (1987). *Special Needs of American Indian College Students*. U.S.; Arizona: Mesa Community College.

Weak academic background, cultural shock, inadequate support services, English deficiency and other needs have been identified as reasons why only 10% of American Indian college freshmen graduate from college. A review of the literature shows that harmony and pride present a cultural conflict in adjusting to exposure to non-Indian society. Value conflicts, motivational factors and financial problems were contributing factors to a high drop-out rate (75-93%) at the University of Minnesota (Duluth). University of California (Los Angeles) research found that

distrust of the institution, unrealistic expectations of education and the University environment, and a lack of counseling contributed to the dropout rate. A Mesa Community College study showed that 73% of those students surveyed needed personal-career interest assessments and 35% needed personal counseling. Other surveys show the need for heritage consistency, academic preparation, English language skills, realistic career goals, American Indian faculty and curriculum (including the opportunity to study their own culture), financial aid, and reservation-relevant education. The Dallas County survey recommended hands-on job experience to promote better job placement after graduation. Community colleges are thought to best serve the American Indian student, being community-oriented, socially, economically, and culturally mixed, lower priced, and offering more counseling.

New York State Education Dept., Albany. Native American Indian Education Unit. (1992). *A Comprehensive Look at Native American College Students in New York State for Academic Year 1990-91. Second Annual Report*. U.S.; New York: This report describes a study of 451 Native American college students who received New York State Indian Aid for the academic year 1990-91. Data were collected from the New York State Native American Postsecondary Grant-in-Aid Program, which awarded about \$430,000 in 1990-91 (compared to \$493,000 in 1989-90). Participants came from all 10 of New York's Indian reservations, with 38% coming from St. Regis Mohawk Reservation. Aid recipients were mostly full-time students (89%), and were split about evenly between two-year and four-year institutions. Of the 442 students for whom grades were available, 88% had a grade point average of 2.0 or better, while 48% had achieved 3.0 or better. A mail survey of educational, graduation, and employment plans was completed by 164 students, including 26 graduates. Respondents attended many public and private institutions and cited a large variety of majors. Over 65% expressed an interest in further education. The most commonly mentioned employment areas of interest were education, health services, counseling and human services, law, and business and finance. This report also discusses: (1) eligibility requirements for New York State Indian Aid; (2) Indian students served by the Higher Education Opportunity Program, the Educational Opportunity Program, and special outreach efforts; and (3) expenditure and enrollment trends. Application procedures and an application form for New York State Indian Aid are included.

Oros, T. (1993). A Prescription for Success. *Winds of Change*, 8(3), 48-51. Describes the Native American Pharmacy Program at North Dakota State University (Fargo), which recruits Native American students into the field of pharmacy, offers summer enrichment programs for Native American secondary and college students and provides scholarships and student support services. (LP)

Pavel, D. M. (1999). *American Indians and Alaska Natives in Higher Education: Promoting Access and Achievement*. U.S.; Washington: This chapter draws on an extensive literature review to examine factors that influence the access and achievement of American Indians and Alaska Natives in

higher education. American Indians are less likely to attend college than other U.S. ethnic groups. This under-representation is partly due to precollege attributes: low scores on college admissions tests, relatively low completion of high school core curriculum requirements, and failure to meet other college admissions criteria. Other, perhaps more important, influences on American Indian postsecondary access are school and environmental attributes: lack of qualified Native educators, lack of culturally relevant curriculum, poverty, and family problems. Once in college, American Indians are more likely than other students to attend a 2-year college and are underrepresented among those who have completed a bachelor's degree. Native graduation and persistence rates are also consistently lower than those of the general student population. To promote satisfactory transition from high school to college, governments and colleges must promote K-16 partnerships with tribal communities to elevate the overall level of precollege academic preparation and postsecondary aspirations of American Indian students. Culturally-specific academic and student support services, mentoring programs, and sufficient financial aid are needed once the student gets into college. Tribal colleges are exemplary in developing recruitment, retention, and supportive campus environments, and many non-Indian institutions have also strived to meet the needs of Native students and communities.

Pavel, D. M., Skinner, R. R., Farris, E., Cahalan, M., Tippeconnic, J., & Stein, W. (1999). American Indians and Alaska Natives in Postsecondary Education. *Education Statistics Quarterly*, 1(1), 67-74.

Describes American Indians and Alaska Natives involved in all facets of higher education. Describes demographic characteristics, access to and enrollment in higher education, outcomes, financial aid, American Indian staff and faculty, and tribally controlled colleges.

Peshkin, A. (2000). The nature of interpretation in qualitative research. *Educational Researcher*, 29(9), 5-9.

This paper addresses the process of interpretation from a study of the academic achievements of Native American youth. It illuminates the relationship of researcher subjectivity to the many decision points that each process of interpretation embodies. It also contains a counterpoint of problematics that reveals where alternative interpretive decisions could have been made. Copyright 2000 by the American Educational Research Association. Reprinted by permission of the publisher.

Reyes, M. E. (2001). Tortured Victory or Joyful Accomplishment? Successful Eskimo and Latina College Students. *Race, Gender & Class*, 8(1), 82-106.

The data from this study indicated that the quality of education offered in the public high schools in TX & AK often poses a serious barrier to minority students' achievement in college. Students reported showing up for college unable to perform college work. Academically unprepared students in TX made use of campus labs during their first two years of college to build their skills. Students in the AK study typically spent one or two years taking "developmental" classes prior to taking regular college course work, a pattern that delayed degree completion by several years. In addition, evidence suggested that campus climate continues to be a

challenge for students who cited instances of perceived bias, racism, or discrimination. It is clear that these students continue to be negatively impacted educationally by the societal barriers of race, gender, & class.

Senese, G. (1999). An unnatural silence: educational access, and achievement in Arizona Native American education. *Planning & Changing*, 30(2), 101-111.

The writer examines access to education and achievement in Native American education in Arizona. Topics covered include the challenges at state level for the funding and staffing of schools in Arizona, Arizona's national reputation for its lack of support for public education, challenges faced by the state's Native American population, tribal education, Native American communities' concern over their children's literacy and scholastic achievement, the impact of literacy and academic achievement, the right of Native American children to mainstream literacy, native tribal sovereignty, failure to reach Native American children through the standard curriculum, ways to enhance Native American children's chances of success, and a dispute over funding for a tribal charter school in Arizona.

Shield, R. W. (2004). The Retention of Indigenous Students in Higher Education: Historical Issues, Federal Policy, and Indigenous Resilience. *Journal of College Student Retention Research Theory and Practice*, 6(1), 111-127.

This article focuses on answering two main questions: Why is this phenomenon occurring for Indigenous students in higher education and what are effective solutions for the retention and success of Indigenous students in higher education?

Shields, C. M. (1997). Learning about assessment from Native American schools: advocacy and empowerment. *Theory into Practice*, 36, 102-109.

Part of a special issue on lessons from alternative schools. The strategies used by two Navajo schools for empowering practices of educational assessment are outlined. Five years ago, the two schools had the worst test scores in their state and a sense of delegitimization and disempowerment through testing. Three basic strategies were used to give the schools a more positive and empowering emphasis. Attempts were made to identify the cultural bias existing in the test scores and develop an awareness of their appropriate uses and abuses and their limitations and advantages. Steps were also taken to analyze the nature of the learnings covered on the tests, to include them in the curriculum, and to use the concepts to improve language development and comprehension of linguistic differences. Furthermore, alternative, more meaningful, and more suitable methods of teaching, evaluating students, and demonstrating student learning were introduced. The result is two schools that are bright and vibrant and that have reframed assessment issues in terms of empowerment.

Straight, A. M. (1995). Emphasis on community translates into Native American success. *Educational Record*, 76, 41-43.

Part of a special issue on minorities in education. The writer reports on Dartmouth College, which has refocused its energies to provide a high-quality education for Native Americans. The college's Native American Program, which provides students

with cultural, social, and academic support, and the Native American Studies Program, which was one of the first ethnic studies programs to be established by a private institution, have produced impressive results as regards the number of Native Americans receiving bachelor's degrees. Of the 359 Native American students Dartmouth has graduated since 1769, 342 have graduated during the last 25 years, an achievement that, the writer claims, can be traced to a large extent to the combined efforts of these programs.

- Tierney, W. G. (1995). Addressing Failure: Factors Affecting Native American College Student Retention. *Journal of Navajo Education*, 13(1), 3-7.
This keynote address of the 1996 RETAIN Conference (Retention in Education for Today's American Indian Nations, University of Arizona) addresses factors affecting the retention of American Indian college students. Includes institutional strategies to meet the needs of American Indian students, student strategies to increase their chances for graduation, and family strategies to reinforce the importance of education.
- Ting, S. R., & Bryant, A. J. (2001). The impact of acculturation and psychosocial variables on academic performance of Native American and Caucasian college freshmen. *Journal of College Admission*, (171), 22-28.
The purpose of this study was to identify the variables that predict academic success of Native Americans and Caucasians. The research question is "how well do high school GPA, SAT (formerly Scholastic Aptitude Test) scores and NCQ (Noncognitive Questionnaire) scores, and cultural variables predict Native American and Caucasian students' GPA and retention in the first year of college?" The results of the study show that a general model to explain academic performance of Caucasian and Native Americans was insufficient and less effective than specific models by ethnicity, which were stronger and provided more indicators of academic success. The study found that although high school GPA was a significant indicator for academic success in the first year of college, the level of acculturation of the Native Americans also affected their academic performance and retention. SAT scores were less effective than the noncognitive variables in predicting the students' GPA.
- Vogt, L. A., Jordan, C., & Tharp, R. G. (1987). Explaining school failure, producing school success: two cases. *Anthropology & Education Quarterly*, 18, 276-286.
Which explanation of the school performance of minority children is most useful and appropriate depends on why one is asking the question. The authors discuss two efforts to produce school success in place of school failure, based on the assumption that specific cultural differences underlie school failure and that producing particular cultural compatibilities in the classroom was a key to school success.
- Wells, R. N. (1989). *[A Survey of American Indian Students.]*. U.S.; New York:
A survey was conducted to obtain more reliable data on Native Americans in higher education and to ascertain the factor contributing to their success and failure in college. A questionnaire was mailed to 79 colleges and universities serving the

largest percentage of Native Americans in the United States. A total of 33 valid responses were received. Findings included the following: (1) as a group, American colleges provide relatively few data for Native Americans and to not have programs aimed at breaking down specific barriers to Native American achievement; (2) retention and matriculation rates for Native American students are low; (3) although institutional support programs and pre-college intervention programs have increased, the Native American student's financial and personal or family problems continue to be roadblocks to academic success; (4) the major barriers to higher education are economic difficulties (coupled with reduced federal aid to college students), inadequate college preparation, and difficulties in adjusting to college. Tutoring programs, developmental and remedial courses, structured counseling, and pre-college orientation are recommended. The questionnaire, with tallies of responses, is appended.

Wenzlaff, T. L., & Biewer, A. (1996). Research: Native American Students Define Factors for Success. *Tribal College*, 7(4), 40-44.

Considers explanations for the successes of Native American students at a predominantly white university. Describes the Native American Secondary Teacher Education Program, reviewing methods used by participating students to accommodate Native American cultural needs in the Caucasian higher education institution. Includes recommendations for implementing similar programs. (13 citations)

West, D. K. (1988). Comparisons of career maturity and its relationship with academic performance. *Journal of American Indian Education*, 27, 1-7.

Zwick, T. T., & Miller, K. W. (1996). A comparison of integrated outdoor education activities and traditional science learning with American Indian students. *Journal of American Indian Education*, 35, 1-9.

This study examines the validity of outdoor-based versus classroom-based science education experiences for American Indian students. The primary focus of the study analyzed a series of hands-on outdoor education activities and compared this experimental group with traditional textbook and classroom science education. Data collection utilized the California Achievement Test 85 (CAT) and compared the American Indian students and non-native students in both the experimental and control groups. Findings indicate the American Indian students provided with the outdoor-based science curriculum scored significantly higher than those presented with traditional classroom science methods. Also, there was no significant difference between the American Indian students and the non-Indian students in the experimental group.

References – Other Geographic Areas

Boulton-Lewis, G. M., Marton, F., Lewis, D. C., & Wilss, L. A. (2000). Learning in Formal and Informal Contexts: Conceptions and Strategies of Aboriginal and Torres Strait Islander University Students. *Learning and Instruction, 10*(5), 393-414. Studied the conceptions of formal learning held by 22 Aboriginal and Torres Strait Islander students from 3 Australian universities, a group with a high attrition rate in tertiary education. Results show that these students view and approach university learning in much the same way as other students, but the strategies these students used did not match the conceptions of learning they held.

Jacoby, E., Cueto, S., & Pollitt, E. (1999). Determinants of school performance among Quechua children in the Peruvian Andes. *International Review of Education, 45*(1), 27-43.

In the rural Andes of Peru, primary school inefficiency ranks higher than in the rest of the country, with a nearly 50 per cent rate of first grade repetition. In 1993 the investigators administered a battery of four psycho-educational tests to 360 schoolchildren in the fourth and fifth grades at ten primary schools in the Andean region of Huaraz. They also recorded the children's individual characteristics, i.e. family background, nutritional status, and educational attainment, and rated the schools according to educational features such as classroom size, time devoted to learning, and student-teacher ratio. A year later, in 1994, children were re-examined in the schools using the same test battery. All subjects were small for their age, had poor diets, spoke mostly Quechua at home (Spanish in school), lived in a rural environment, and walked considerable distances to school. Regression analyses of the 1993 data indicated that the performance of Quechua children on verbal tests was heavily influenced by family background, while their mathematical competence was related to school experience. On the other hand, improvement in test scores from one year to the next appeared to be strongly related to test performance in 1993 and less clearly to the other recorded variables. Finally, the schools' promotion rates were clearly associated with test scores from the previous year but less clearly with grade repetition rates.

Lund, S. (2000). *Adult Education and Indigenous Peoples in Norway. International Survey on Adult Education for Indigenous Peoples. Country Study: Norway.* Germany:

Adult education for indigenous peoples in Norway was examined. First, information on government institutions, indigenous organizations, international agencies, and nongovernmental organizations engaged in adult education for Norway's indigenous peoples was compiled. Next, questionnaires and survey techniques were used to research the policy and practice of adult education for the Sami people in northern Norway, Sweden, Finland, and Russia's Kola Peninsula. Special attention was paid to the following topics: (1) Samis and Sami education; (2) principles and organization of adult education; (3) adult education for Samis in all-Sami organizations, Norway, Sweden, and Finland; (4) needs and target groups of adult education (language, culture, vocational education, computer technology, higher

education, gender and education, short-time educated people, and people involved in reindeer husbandry); and (5) organizing and responsibility. The study established that, because of a longstanding policy of assimilation, Norway's adult Sami population has not received an education built on its own language and culture. Although the assimilation policy is now officially abolished, its effects will likely remain for a long time. Adult education specifically designed and organized for Samis is acutely needed, according to the researchers. (The bibliography contains 65 references and 32 Web sites. The addresses of 70 institutions concerned with adult education for Sami people are appended.)

Smith, G. H. (2000). Maori education: Revolution and transformative action. *Canadian Journal of Native Education*, 24(1), 57.

This article discusses the most dramatic changes in the New Zealand education system since it was formally established in the 1860s. Maori people who were prepared to go outside the existing state schooling system developed these revolutionary changes. They were motivated to make drastic educational change because they were concerned about the educational underachievement of their children and the loss of their language, knowledge, and culture. The article highlights the critical intervention elements at the core of the Maori education revolution, which centers on the use of traditional and contemporary notions of whanau (extended family) values, practices, and structures. Since 1982 Maori people have developed several alternative education innovations in a variety of education sites. These include preschool (Te Kohanga Reo), primary schools (Kura Kaupapa Maori), secondary schools (Whare Kura), and postsecondary sites (Whare Waananga). All these initiatives have been based on Kaupapa Maori as a theory and practice of transformation.

Appendix B – Excluded References

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