Native Access Program for Engineering

WORKSHOP PROCEEDINGS

Native Communities

and

School of Engineering

Lakehead University

Valhalla Inn

Thunder Bay, Ontario

September 24, 25, 1991

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Preamble

In the Spring of 1991 the School of Engineering at Lakehead University began an investigation into the need for native engineers and the potential for the establishment of a Native Engineering Access Program at Lakehead University. This investigation consisted of a series of personal visits by the Director of the School to a number of educational authorities and other native organizations in the region that is served by Lakehead University. As a result of the positive and encouraging responses to this idea amongst officials of the Native community, the plan for a larger, workshop format seminar took shape.

The workshop was planned for September 24 and 25 in Thunder Bay. Representation from over two dozen different native organizations, community groups, tribal authorities and provincial organizations was invited. Elders from the local community were approached in the traditional manner to gain the benefit of their guiding presence and participation at the workshops. The major purpose of the workshop was:

To determine an impression of the need for engineering education for Ontario First Nations People.

The Conference

The agenda (attached) was constructed to provide participants with an initial introduction to background information concerning engineering as a profession, general issues in the current supply of graduate engineers, the market demand for Native graduates, the value of native graduates to the future economic and physical well being of Ontario First Nations communities, the nature of successful Access Models of university education for native people and the unique structure and benefits of the Lakehead University Engineering program.

Day One of the Conference

Elders, Richard Lyons and Walter Linklater, opened the proceedings in the traditional manner, asking for guidance and reminding participants of the seriousness and importance of the task ahead of them and of the need for them to approach these tasks in a spirit of openness, camaraderie and good humour.

Dr. Rosehart, President of Lakehead University, welcomed participants and confirmed Lakehead University's commitment to supporting the needs of native

learners in Northern Ontario. George Hickes, a Manitoba native MLA, spoke about the benefits of the University of Manitoba programs to that province's Northern development. Doug Stone, a practising engineer with many years of diversified experience, gave a comprehensive overview of the types of work engineers do and the nature of their professional training. Derek Hill, a professional native engineer from the Muskegowuk Tribal area and one of the few native engineering graduates from Lakehead University, spoke about his own background and educational experience and the need for more native engineers. Gary Locker, Director of the School of Engineering at Lakehead University, related the difficulties that the School has had in responding in to native students and the commitment of the School to change that situation. He also gave an overview of Lakehead University engineering programs and a description of the variety of students which these programs now serve.

The remainder of the first day was spent in small group working sessions dealing with issues relating to the supply and training of Native Engineers and the specific challenges of designing an access program in engineering at Lakehead University. Workshop recorders for all sessions were Rebecca Maki, George Boyd, George Hickes and Murray Cohen.

The first series of workshops on the afternoon of the first day dealt with four related topics: Supply and demand of Native Engineers; Why more native students don't choose engineering; How the field of Engineering can be explained to the communities and potential students.

Several related themes emerged within each of the workshops.

- It was generally agreed that the further development of self government will create a great demand for trained native engineers who understand the native community and its needs.
- At present, the lack of role models make it difficult to recruit and to explain engineering as a profession; this is especially true amongst young women. Since engineering is not as visible as some other professional occupations in the communities, there is little understanding about the role and value of engineering.
- There appears to be a lack of quality secondary education programs in some communities and a lack of awareness on the part of school counsellors both of the need for engineers and the importance of the mathematics and sciences to the students. They and the community need to be better informed about how engineers can improve life in their communities.
- A series of actions are required to educate the communities and the youth about

the role and importance of engineering. Students must be made aware of the requirements and the hard work that choosing an engineering career brings with it.

At the end of the first day all four of the groups shared their findings in a plenary session. As a result of that session a number of additional topics were identified for inclusion in the second day workshops. The day was brought to a close by traditional ceremonies and everyone retired to an evening banquet and good fellowship.

Day Two of the Conference

After morning opening and prayers, Elder Walter Linklater took some time to provide a traditional perspective on the educational and political history of First Nations in Canada and the role of elders.

Workshops in day two dealt with a broad range of detailed topics and developed a number of specific recommendations concerning elements of the access program itself, including recruitment, selection, orientation, counselling, contact with communities, support systems and academic support. These are too numerous to summarize and are presented below in point form:

Recruitment Methods

1. Advertisements in newspapers, television, radio, video tapes.
2. Use Native organization networks.
3. Develop posters for placement in stores, post offices and band offices.
4. Inform school counsellors and get their support.
5. Use every opportunity to couple career counselling with academic counselling.
6. Attend career days and high schools with professionals and other role models.
7. Develop brochures.

Selection

1. Review the selection processes in place for similar programs.
2. Evaluate educational background.
3. Obtain recommendations from the communities.
4. Evaluate the personal commitment and interest in the program.
5. Use orientation period to help in selection.

Financing and Resources for Students

1. Assistance available through DIA Post Secondary Assistance Program. Single and mature students should be given equal eligibility for financial assistance.
2. Financial assistance should be flexible based on need. Traditional ways of funding students has resulted in wasted dollars.
3. The link to First Nation Communities is very important to ensure on-going sponsorship of engineering students and to ensure no undue hardships are

created, i.e. late cheques, rent payments, etc.

4. Financial assistance requires that students be in place by April at the latest to ensure availability of funding for September.
5. OSAP funding is available to students who do not qualify for funding through DIA.
6. Current scholarships available through the Post Secondary Program be maintained and ensure that engineering students have access to this scholarship fund.
7. Explore other scholarships that are available to Native students, locally, provincially and nationally.
8. Approach First Nation Communities and political organizations for scholarship bursaries.
9. Special scholarship fund be created for status and non-status engineering students.
10. Approach various corporations or industries, Hydro, mining companies, etc.
11. Assist students in finding summer employment. A break in studies is very important. Students should return to communities to work in the summer months.
12. Length of sponsorship should be flexible keeping in mind the students' commitment and the demands of the engineering program.
13. Create an engineering education fund to ensure financial stability of the program. Obtain funds from the private sector, political organizations, universities, colleges, DIA, foundations, First Nations/Tribal councils.
14. Look at supporting Engineering students as an investment for the future rather than spending dollars on consultants.
15. To ensure on-going financial support for the program, First Nation Communities must have on-going involvement in the program. Continuous feedback and linkage is crucial if this program is to be successful.

<u>Support Systems and Communications</u>

1. Full-time program coordinator and staff should be hired to work for the program.
2. Entry and post-graduate scholarships should be available through the communities/Native organizations and Lakehead University.
3. Role models should be available to encourage students.
4. Develop linkages with communities and Elders.
5. Provide assistance to find both summer employment and permanent employment upon graduation.
6. Involve students in extra-curricular university life through a peer support program.
7. Provide assistance in finding suitable housing, day-care, schools for children, if necessary.
8. Have an on-going evaluation of program: internal and external.
9. Establish a comprehensive list of tutors.

At lunchtime, workshop findings were presented in a plenary session. At this point the workshop facilitators explained that they now felt that the group had had enough information and had spent considerable time and hard work investigating the idea of an Native Engineering access program and it was time to make a decision to proceed

or to drop the idea. Each person was asked to write their personal decision on a piece of paper and that the results would be announced after lunch.

After lunch a number of the anonymous written responses were read and the final tally announced; **a unanimous decision to proceed with the program development.** Since, included in many of the responses were suggestions for how to proceed and offers of help, it was decided to remain in the larger group and begin discussions of the tasks that needed to follow this meeting.

Four points were emphasized by the group:

1. A program development committee should be struck, with strong representation from members of this group and others to take the recommendations presented here and begin the detailed development of the program.
2. A finance committee should also be struck to begin identifying the necessary funding for the students it will serve.
3. It will be necessary to keep this group and others informed of continuing developments as they occur and to call upon members of this group and others to assist in the work of the committees and the further development of some of the strategies recommended as time goes by.
4. It will be necessary to move very quickly in order to target the beginning of the program for July 1992.

Elders concluded the sessions with traditional ceremonies, congratulating the participants and wishing them safe travels.

AGENDA

September 24 - Scandia 1

9:00 a.m. - 9:45 a.m.	Opening -- Dr. R. Lyons and W. Linklater Welcome -- Dr. R. G. Rosehart, P.Eng. and Chief B. Cheechoo
9:45 a.m. - 10:00 a.m.	Conference Agenda and Tasks Conference Facilitators: Dennis Macknak and Don Robertson
10:00 a.m. - 10:30 a.m.	Value of Career Oriented Training to Natives and their Communities -- George Hickes, MLA, Point Douglas
10:30 a.m. - 11:00 a.m.	*Break - Scandia 2*
11:00 a.m. - 11:20 a.m.	Engineering and its Role in Society -- Doug Stone, P.Eng.
11:30 a.m. - 11:50 a.m.	My View as a Native Engineer -- Derek Hill, P.Eng.
12:00 p.m. - 1:00 p.m.	*Complimentary Lunch - Scandia 2*
1:00 p.m. - 1:20 p.m.	LU's Engineering Program: What We have to Offer -- Dr. J.G. Locker, P.Eng.
1:30 p.m. - 1:50 p.m.	What is an Access Program? -- Murray Cohen
2:00 p.m. - 3:30 p.m.	Work Shops and Reports-Scandia 1 & 3 Engineering in the Native Community: Discussions on such topics as 1) The supply and demand for engineers 2) Why more native students don't choose engineering? 3) How can the field of engineering be explained to the communities and potential students?
3:30 p.m. - 3:50 p.m.	*Break - Scandia 2*
4:00 p.m. - 5:00 p.m.	Identification of Workshop Topics For Day Two Participants are to identify topics such as student needs/problems for Day Two workshops
5:00 p.m.	Closure - W. Linklater
6:00 p.m.	*Complimentary Dinner - Ballroom 3*

September 25 - Viking Room

9:00 a.m. - 9:15 a.m.	Opening - W. Linklater Workshops - Viking & Icelandic Rooms
9:15 a.m. - 10:30 a.m.	Recruiting/Admission Criteria Workshop and Reporting Discussions on topics such as 1) Mature students; new high school graduates 2) Geographic distribution 3) How to identify highly motivated students 4) The Who, When, Where of recruiting
10:30 a.m. - 10:50 a.m.	*Break*
11:00 a.m. - 12:30 p.m.	Workshop II and Reports
12:30 p.m. - 1:30 p.m.	*Complimentary Lunch - Ballroom 3*
1:30 p.m. - 3:00 p.m.	Workshop III and Reports
3:00 p.m. - 3:20 p.m.	*Break*
3:30 p.m. - 4:30 p.m.	Summary Discussion
4:30 p.m.	Closure - W. Linklater