Council for Access to the Profession of Engineering (CAPE)

- Aims to become an Independent Ontario based membership Association for Internationally Trained Engineering Graduates (ITEGs).

- Strives to enable ITEG access to the engineering profession across Ontario

Introduction

1. Since confederation, Canada's policy has been to deliberately encourage and optimize immigration for perceived economic or compassionate imperative
2. Canada is unique as an 'experiment' in accommodating a continuum of large numbers of increasingly diverse Immigrants
3. Canada's 30 million inhabitants reflect a cultural, ethnic and linguistic makeup found nowhere else on earth" (*Canadian Heritage website*)

Rationale for Research

- Unemployment rate among immigrant Professionals 3 times higher than mainstream in Ontario.
- 60% of those employed in jobs not related to their training at first
- They hold the same job three years later.
- 47% of those employed are in jobs unrelated to their fields.
- Less than 1/4 are employed in the field they are educated in.

Breakdown of all skilled immigrants in Ontario (2003)	
Engineering Graduates	60%
Engineering Technicians/Technologists	15%
Accountants	10%
Healthcare Providers	9%
Teachers	2%

http://www.fims.uwo.ca/newmedia/immigrants/facts.htm

CANADIAN ECONOMIC 'EXPERIMENT' IN DIVERSITY - THE CASE OF ITEGs

- Engineering Access Project (Ontario wide) – Systematic, Integrated and Strategic Approach (SISA) based action research
- Integration of Internationally trained engineering graduates (ITEGs)
- Sharing initial research Findings
- Feedback is most Welcome

The Systematic, Integrated and Strategic Approach

- Situation Analysis
- Define the Problem/hypothesis
- Definition of Components - *multi level/dimensional*
- Understanding Relationships Between the Components – *integration, dynamic analysis, visual, physical or mathematical modeling*
- Defining Action Agenda For Future – Strategy
- Not necessarily a linear application – may go through loops.

Situation Analysis – Baseline Data

- ITEGs represent the largest occupational group of skilled workers immigrating to Ontario
- 1994-2000, 75,283 immigrants from regulated professions.
- 73% identified themselves as engineers, engineering technicians and technologists
- More likely to have university education than mainstream
- Higher unemployment rates than mainstream

Participatory Focus Group: Ethno-cultural Associations

- Lack of detailed coordinated data – CCPE, CIC, PEO
- Consultation - 10 Associations of Immigrant Engineers/Professionals: Total membership in access of 5000 ITEGs
- Two distinct groups outside mainstream – Pre 1960 and Post 1980
- Pre 1960 group mostly Eastern Europeans linked to mainstream through origin, race, religion & culture. Skills and language disconnect
- Post 1990 group total disconnect – origin, cultural, religion, high skills and partial language disconnect

Integration into Engineering Workplace Experience Pre-1960 Groups

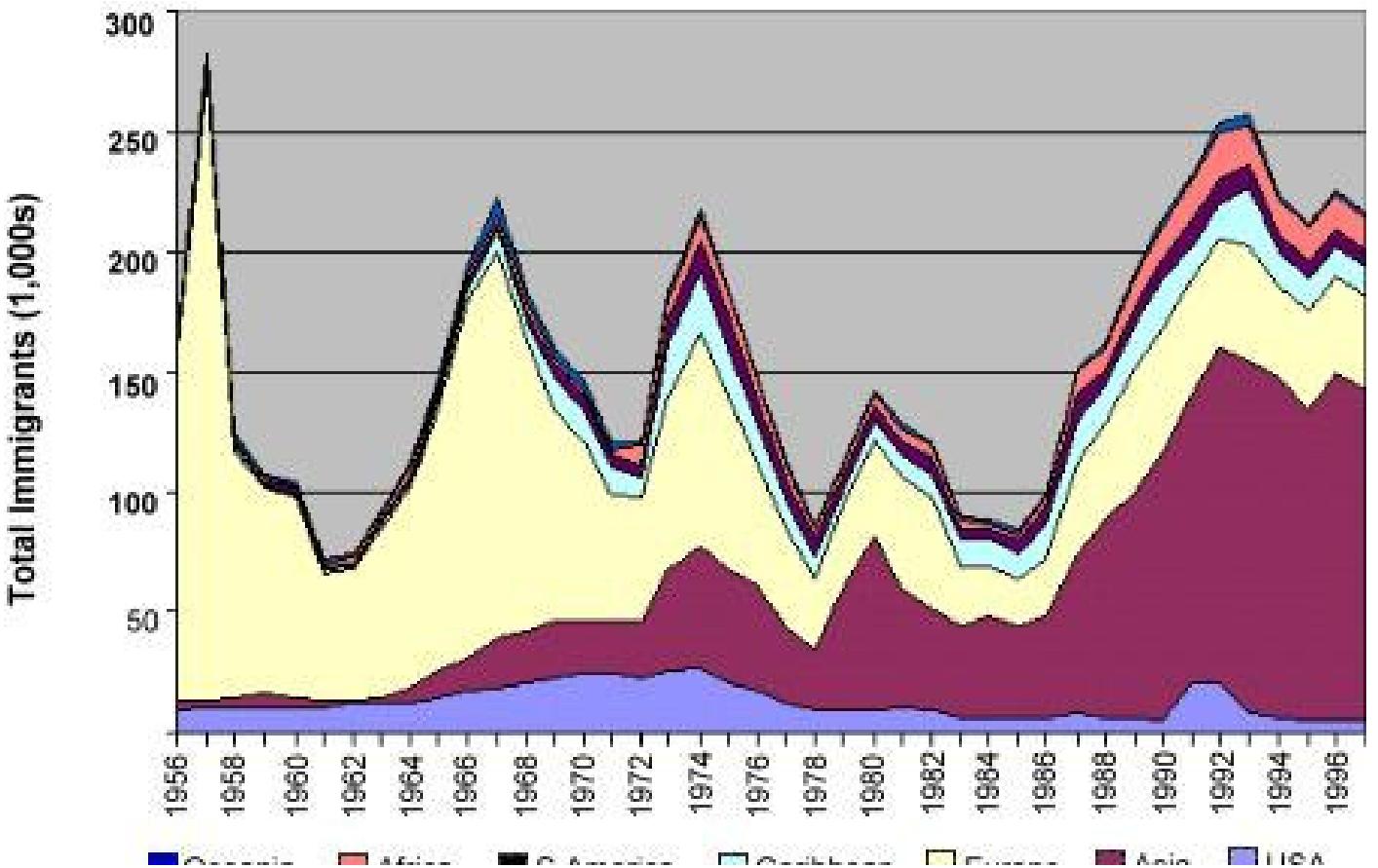
- No Newcomer assistance
- Community based language training
- Input to PEO accreditation process to
- integrate diversity with some success
- Work experience requirements?
- Technical advance – new patents
- Boom times

Integration Into Engineering Workplace Experience Post 1990 Groups

- Credential assessment pre& post immigration
  - Length and diversity
- Employment preparation and Language training
- Canadian Experience requirements
- High skills
- Uncertain economic and development paradigms

Supportive information

Figure 1: Immigrant Source by Region of Origin



Validation of Situation

- Recent survey (May 2004) of 300 ITEGs by CAPE
- Less than 18% work in engineering field
- 29% are doing something irrelevant to their field
- Over 53% are unemployed
- Lack of Canadian experience cited as the most common barrier to employment by ITEGs
- lack of language skills is most cited deficiency by the employers (CCPE, FCII, 2004)

The Problem - Hypothesis

- Generally barriers to employment of ITEGs centre on information, language, workplace culture and licensing (CCPE, FC11).
- Our hypothesis is that the problem is more complex and the relationship between ethnicity (race, origin or ancestry, identity, language and religion), economic development, immigration policy, regulation and Integration of internationally trained engineering graduates and other professionals needs better definition to improve the employment situation of ITEGS

Research Approach

- Thematic historical analysis of immigration, development, regulation and engineering
- Dynamic Model and Analysis

Themes

1.	COLONIAL BEGINNINGS	1500-1867
2.	THE NATIONAL POLICY ERA	1867-1896
3.	INDUSTRIALIZATION	1896-1929
4.	INSTABILITY AND RECOVERY	1930-1950
5.	POST-WORLD WAR II BOOM	1950-1975
6.	RESTRUCTURING /SLOWDOWN	1975 -1990
7.	KNOWLEDGE & GLOBALIZATION	POST 1990

Professor Mac Urquhart of Queen's University http://www.chass.utoronto.ca/~echist/lec18.htm

Colonial Beginnings: 1500-1867

CONTEXT

- Expansion of settlement and agriculture
- 800,000 immigrants 1815 and 1850 - the Great Migration.

CONSEQUENCE

- Population increase
- Economic activity
- wealth creation

2. The National Policy Era: 1867-1896

CONTEXT

- Governance
- The British North America Act of 1867
- Immigration in Federal Domain
- Regulation of professions into provincial domain
- Railway and canals - influx of engineers

CONSEQUENCE

- Canadian Society of civil engineers - membership – few graduates, age 30yrs and 10 years work experience, no license
- Put engineering on the same professional footing as law and medicine

3. Industrialization: 1896-1929

CONTEXT

- Mining, agriculture and industrial transformation.
- Economic boom
- Immigration from Eastern Europe
- First World War & Returning Military engineers
  - increased number, depressed salaries, competition and affected quality standards through disasters.

CONSEQUENCE

- 1922 Professional Engineers Act passed and PEO established

4. Instability And Recovery: 1930-1950

CONTEXT

- Decline - agriculture & primary production
- Expansion -manufacturing and related services
- World War 2
- Displaced people – increased workforce
- Highly restrictive immigration policy
- Rapid Industrialization - investment and striking advances in technology

CONSEQUENCE

- 1937 licensure was made mandatory for engineers

5. Post-world War II Boom: 1950-1975

CONTEXT

- 1948 - Universal Declaration of Human Rights
- 1960's – Immigration criteria and investment in education
  - Immigration skills, training and job experience
  - Heavy Government investment in Higher education
- Immigrants - non-traditional countries - **Asia, Africa, Central and South America**.
- 52 %immigrants - Ontario (1946 -1971)

CONSEQUENCE

- 1961 OACETT- Certification of technicians?
- 1969- Professional Engineering Act revised
- *what was experience requirement at this stage?*

6. Restructuring 1975 -1990

CONTEXT

- Uncertainty, Stagflation, declining productivity and growth & rising unemployment
- Rapid technological advance
- Immigrants from non-traditional countries increased but not the major component
- Knowledge-based occupations - mid-1980s to 1997.
  - 15-fold computer scientists, 10-fold among engineers, eight-fold among natural scientists, and four-fold among managerial workers.
- 1982 Charter of Rights and Freedoms in Constitution Act

6. Restructuring 1975 -1990 Cont

CONSEQUENCE

- 1984 Engineering Act Amended and revised definition of professional engineering, to include protection of life, property and public welfare.

- Focus women in Engineering

7. Knowledge & Globalization: Post 1990

CONTEXT

- Technological revolution
- Highly skilled immigrants - Majority from non traditional countries
- Global agreements opportunities GATS and NAFTA
- 1990s - shift to a service economy with highly-skilled jobs

CONSEQUENCE

- 2000 definition revised to include professional misconduct & harassment
- 2003 new admissions appeal process/ provisional license (Fiasco)
- Tightening of enforcement and regulation
- Experience requirements increased 2 to 4 yrs (1 Year Canadian)

Integrated Framework for Action Multiculturalism and Ethnicity

- New dimensions to ethnicity under globalization – S.E Asians from Africa compared to S.E Asians from Asia
- Multiculturalism (continuity and plurality) – How it plays out through the charter of rights.
- Different aspects of integration (Japanese and others high income/invisible, East Europeans and strong need for identity (identifiable) and visible minorities (clearly low income)

Integrated Framework for Action
Economic, Policy and Regulation

ECONOMIC

- Investigate demand and supply and market play
- Understand the interplay of domestic & immigrant pools of professionals
- The dynamics of trade unions to maintain shortage of labour

REGULATION

- licensing and new comers
- International and Canadian Experience

POLICY

- Federal/provincial
- Data Coordination

Integrated Framework for Action
Emerging Scenarios - Continuum

- Globalization - new opportunities
- The nature of the shift to knowledge based occupations.
- Reality of changing demographics
- Technological trends info, bio and chemical revolutions

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