

GOOD GRADES OR THE GRIDDLE

Even though the fastest growing occupations in the next decade in the United States and Canada will be for food preparers and servers, students should be prepared for this new era of employment with a stronger focus on math, science, and reading. This is the conclusion of Frank Levy an Urban Economics Professor at MIT and Richard Murnane, Professor of Education at Harvard, in a paper entitled “*Education and the Changing Job Market*,” The authors contend that in a world where jobs are increasingly being lost to computers or created in the fast food sector, the case is even stronger for educating students with strengths in expert thinking and complex communication.

The paper describes a process called “hollowing out” whereby society is losing jobs in the middle while gaining jobs at the top and bottom ends of the wage scale. For example, the biggest declines from 1969 to 1999 were in blue collar occupations, such as assembly line workers and administrative support positions like file clerks. During the same period, the lowest paid categories such as janitors, waiters and security guards grew moderately while the higher paid job categories in technical applications, health and the professions, such as teaching, experienced the greatest growth.

Looking at the last four years in the American market, the story becomes even clearer. From June 2000 to June 2004, just under two million jobs were added in technical, professional and management categories and just over two million jobs were added in food preparation and serving. However, during the same time as the recession bit into the American economy, over two million blue-collar occupations were lost as well as 900,000 administrative support jobs.

This hollowing out phenomenon has specific implications for students

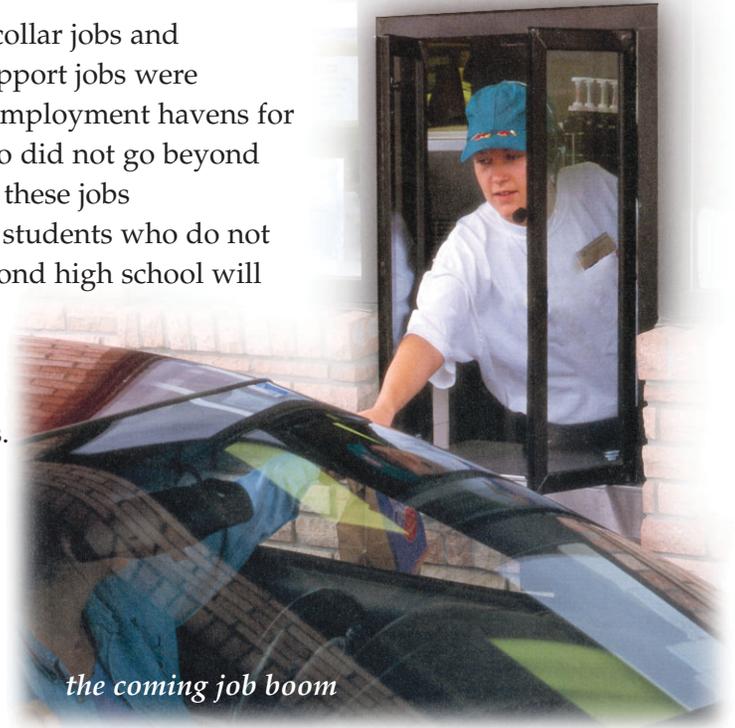
because the blue collar jobs and administrative support jobs were traditionally the employment havens for young people who did not go beyond high school. With these jobs disappearing, the students who do not have training beyond high school will be in fierce competition for the low-end service sector jobs.

For purposes of the study, work was grouped into four categories and trends for growth or decline of jobs in each of these categories were examined. These included:

Expert thinking – a category involving the ability to solve new problems that cannot be solved by applying simple rules;

Complex communication – jobs requiring the ability to not only elicit and transmit information, but also convey a particular interpretation of information to others. These jobs can be found in teaching, selling, management, and negotiations.

The other categories include **routine manual work** such as manufacturing products on an assembly line, and **routine cognitive work** such as filing and bookkeeping. The latter are the easiest types of tasks to computerize because they are based on simple codified rules.



the coming job boom

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Asked who should have primary responsibility for solving environmental problems, 33 per cent of residents believe it's up to individual citizens followed by government at 29 per cent, agriculture and forestry at 24 per cent, and business and industry at 23 per cent. A majority of the people in the State, 90 per cent, want their schools to provide environmental education. On the matter of support for environmental action, 20 per cent reported that they donate money to environmental organizations more than once a year while 34 per cent responded that they donate once a year.



Regarding the male/female split, males scored higher than females in most of the responses in terms of environmental knowledge, a finding consistent with environmental literacy surveys conducted nation wide, but females tend to have a more positive attitude toward the environment compared to males.

The range of topics covered in the factual

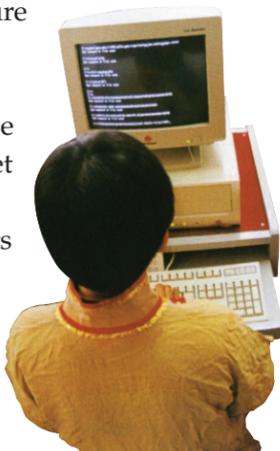
knowledge questions covered a number of areas. Respondents were given a list of choices to identify the biggest source of pollution in streams and rivers, they were asked to identify the largest source of electricity generation in the State, to select the largest source of carbon monoxide, to identify from a list the contribution made by wetlands and to select the main cause of global climate change.

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five children in the cities under age 18 suffers from obesity.

Between kindergarten and university, the pressure does not relent. With Chinese universities only able to offer spaces for half of those who apply, Chinese parents will make great sacrifices to give their children the competitive edge needed to get high marks. It is common for air-conditioned hotel rooms to be rented for high school students so they can study for university exams in comfort.

The number of people under 25 in China who have been raised in single-child households is 100,000,000, about three times the population of Canada. With China viewed by Canada as an important customer for Canadian products and hence an important source of future Canadian jobs, the academic success of this 100,000,000 person future generation weighs heavily in Canada's future as well.

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A snapshot of employment trends in each of the four categories over the past 30 years tells the tale. Jobs involving complex communication have had a 12 per cent increase and the momentum points straight up. Jobs involving expert thinking show a 6 per cent increase and are rising. By comparison, jobs involving routine manual work have declined by 2 per cent in 30 years and those requiring routine cognitive work have dropped by 8 per cent and continue to plummet. The

Jobs involving routine manual work have declined

authors stress that the jobs in the latter category, which are easily done by computers, are not going to come back.

The study does not suggest an overhaul of the curriculum in response to the new economy. It states, "The challenge posed by a changing economy is not to teach new subjects, but to teach all subjects so that

students develop complex understanding and communication skills." In a changing world, they suggest that students must have literacy and math skills to become "expert thinkers in any field."

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No detail is overlooked in terms of making business meetings productive and focused events for participants according to the article. Growing in popularity are such meeting attractions as "ice cream breaks and neck and back massages" for participating business people.

Ice cream breaks and neck and back massages

Imagery also plays a big part in employee motivation meetings. In one such meeting described, the employees entered a ballroom where there was to be an employee recognition party. They found an orchestra sitting in the audience. The employees to be recognized were then brought to the stage, where they occupied the orchestra's chairs. The message intended was that "You are the stars of the corporation. You belong in the limelight." It could be called orchestrated morale boosting.

Professional meeting planners who are highly successful in their fields believe that a day away from the workplace need not equate to army boot camp, whether the participants are school teachers or corporate executives.

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and knowledge students are expected to know and be able to do for each subject and grade. For Civics 11, a wide range of outcomes is prescribed.

For "informed citizenship" for example, it will be expected that students will be able to describe the key features of prominent 20th and 21st century political and economic ideologies. Under "civic deliberation", it will be expected that students can compare Canadian and American forms of federal government, and evaluate the relative powers to affect civic change of individuals, governments, and institutions in Canada and in the world. They will also be expected to be able to create a statement of what it means to be a Canadian citizen.

Powers of individuals, governments, and institutions in Canada

As with any provincially approved curriculum, a recommended set of learning resources is proposed. These are resources that have undergone a provincial evaluation process using teacher evaluators. They then earn a Minister's Order granting them provincial recommended status. These are generally materials from outside the education system which are used to help give the students more focus and relevance in a particular course. When the final package is developed for Civics 11 an official list of approved resources will be appended. In the meantime, in the draft version, a series of resources is proposed from sources as diverse as the Assembly of First Nations, the CBC Archives, NATO, Statistics Canada, and the United Nations.

*continued from Page 11... A One Stop Learning Resources Teachers' Shopping List***THE CANADIAN ENVIRONMENTAL LITERACY**

Project (CELP) is working to promote environmental literacy by making it easier to teach relevant subjects. CELP is developing a series of Canadian-focused educational modules, available to instructors free of charge on the CELP website. The modules include lectures, calculation exercises, and materials in support of discussion-type seminars. The modules are oriented to introductory classes in environmental studies and environmental science in universities, colleges, and senior high-schools. If you are interested in CELP and its educational modules, please visit the website at www.celp.ca. If you are interested in reviewing or preparing modules, please contact us at celp@dal.ca.

LEARNING ABOUT PAPER

The following resources are suggested for teachers interested in obtaining classroom materials and background information on paper production. The TAPPI site at www.tappi.org has a link to the paper university book store for educational resources for students and educators. Teachers can also visit the Canadian Pulp and Paper Association site, www.cppa.org/english/meeting/faq.htm where answers can be found to frequently asked questions about pulp and paper. Finally, the Confederation of European Paper Industries offers paper on line information at www.paperonline.org which has sections on the history of paper and the relationship of paper to the environment.