The need for education continues to be stressed

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The help-wanted index may be down, but the economic slump will not last forever. Whether you are starting high school or a second career, this is a good time to think about what skills will be needed most in future.

What will be a good thing to do for a living in the next decade? A few areas stand out: education, information services, health, travel and leisure and financial services, especially retirement planning.

One of the best things to be in the *future will be a university* professor in the sciences. The existing crop of professors is aging rapidly. What would have been the next generation have chosen to become lawyers and investment bankers instead. So experts predict there will be shortage of professors in Canada in 10 or 15 years.

Women professors especially will be in strong demand as universities strive to redress staffing inequities. Good areas to specialize in will be math, physics, chemistry and biology, for example. Expets in Mexico and Central and South America may also be needed.

EDUCATION BOOM

Indeed, from the universities down, the demand for education and training is forecast to boom. Education will not end with graduation. As well, people will have to train themselves for more than one job during their lifetime as the need for particular skills change.

Teachers of English as a second language will continue to be popular as more people choose to emigrate to Canada. Spanish teachers will be needed, especially if Canada joins in a continental free-trade agreement with Mexico as well as the United States. (Spanish already is the second language in the United States.)

Mutual fund salesmen should do well, as should independent retirement planners. An aging and increasingly wealthy population will lead to the need for people who offer good, objective advice on retirement planning. Financial planners' associations in Canada and the United States offer courses that lead to certification. Mutual fund salesmen also must complete a course to get their licence.

As well as money, the aging population will have leisure time. They will want to travel. But being aging baby-boomers, they will not settle for the package tours that have been popular in the past. Instead, they will want custom tours, preferably with an educational component - learning Spanish in San Miguel d'Allende, for example, or going on an archealogical dig in Israel.

INFORMATION BIG

Also needed will be people who can make some sense of the flood of information that has resulted from the global marketplace. The information business - including newspapers, magazines and even television - will have to become more sophisticated.

Executives, meanwhile, will find themselves unable to read the amount of published material that confronts them. They will be more selective, creating opportunities for well-focused information services.

Many of these will be computerized. Subscribers of certain data bases already are able to read summaries of newspapers on their computer screens. Summaries of The Globe and Mail are transmitted by fax machine. In future, householders may be able to pull up on their home computer screens only the subjects they want to read about.

Survey Completed Wednesday, October 10, 1990	MORTGAGE RATES ANNUAL INTEREST					
	SIX MONTH	ONE YEAR	TWO YEAR	THREE YEAR	FOUR YEAR	FIVE YEAR
TRUST COMPANIES						
Canada Trust	N/A	13.25	13.25	13.25	13.25	13.25
Municipal Trust	N/A	13.50	13.25	13.25	13.50	13.50
NRS/Royal Trust	13.25	13.25	13.25	13.25	13.25	13.25
CHARTERED BANKS						
Bank of Commerce	N/A	13.25	13.25	13.25	13.25	13.25
Bank of Montreal	N/A	13.25	13.25	13.25	13.25	13.20
Bank of Nova Scotia	N/A	13.25	13.25	13.25	13.25	13.25
Royal Bank	13.25	13.25	13.25	13.25	13.25	13.25
Toronto Dominion	13.25	13.25	13.25	13.25	13.25	13.25

This survey was prepared to help the Herald Homestyle readers track weekly Bank and Trust Company rates.

Autumn superb for tree planting

Many owners of older homes in cities across Canada are facing a problem with shade trees, or they have a large open space where a large tree once stood. In some cases, older trees such as elms or huge sugar maples have died and owners, though they would like to have another tree, realize they don't want one that will grow as large as the original one now dead.

On many other properties, owners see their maple, birch, or even elm in a state of decline, and realize it is not going to be there to shade them much longer. Still other home owners have a property with many large trees which do not allow enough sun through to grow any vegetables, or even other than a shady flower garden. Their dilemma is how to get more sun, and yet still have some trees on the property for shade in specific areas such as the patio or deck.

The answer to all of thee variations of the same problem, having to do with former or existing large shade trees, according to the Canadian Garden Council, is planting new smaller trees. In the case of homes which have lost huge trees recently, the space left open allows for the planting of a smaller tree in the same spot or near the trunk of the older one. However, before planting there, it is wise to consider if there is a better spot at which to site a new tree or trees as replacements.

If the older tree is still present, and either in decline indicating it will not be around for too many more years, or even if it or several such older specimens appear to be growing well, it is not too early to consider planting at least one new, smaller tree to take over when the larger one succumbs.

In such cases, by planting now, the younger, smaller tree or trees are able to be well established and achieve some impressive growth before it is necessary to remove the older specimens.

There is still one other scenario in which some homeowners, especially of newly-purchased resale homes, may find themselves. In this situation, new homeowners buy a resale home because they like the house, but they do not like the garden! The property, often overgrown with shrubs and small trees, may also be dominated by one or several huge trees which allows limited choice in garden planning - a shade or woodland planting. While such a planting may be popular with some, it will not be with those who wish to grow a wide range of vegetables, and flowers such as roses, lilies and other sun-lovers.

The answer in this scenario is the removal of virtually all of the old existing garden - including the huge old shade trees, regardless of their condition. While this may appear to be committing a sin, in view of all the publicity regarding the need to plant more trees, homeowners who decide on this path, will actually be planting more trees and shrubs than they are removing. And, the Canadian Garden Council points out that they will be planting for the future, for in most cases, the new plants will be helping to purify our air and moderate our climate long after the old shade trees would be dead in any case. However, it takes a great deal of pondering and soul-searching before proceeding.

In all the foregoing scenarios, the answer is the planting of one or several trees and the time to plant these, in virtually all cases, is this Autumn. In the last several decades, the choice of smaller-growing shade trees has improved substantially. Before deciding on just what tree to plant, the Canadian Garden Council suggests visiting a local arboretum, city parks, university campus, show/display garden, or even a public cemetery to view some of the trees that grow well in your location.

The next stop should be a local garden centre for further advice on the range of smaller trees available. Before narrowing your choice you should consider just what type of tree you wish. Choices include the ultimate size, shape of the head, growth habit (upright, weeping, globe), how fast the growth is, special features such as unusual foliage colour, flowers, Autumn colouration, fruits edible by birds, and whether the shade cast is just what your garden needs.

There is a great variation in what are commonly called "smaller trees." Generally, many horticulturalists might consider anything from white beam mountain ash (Sorbus aria) which grows to a height of ten metres (35 ft.) down to a weeping mulberry which will never exceed three to four metres (10-12 ft.) as a dwarf or ornamental tree. The choice is wide, and all possibilities should be considered.

If we were to take a look at some of the newer or lesser-known of the smaller trees, heading the list likely would be the Japanese tree lilac, particularly a cultivar known as 'Ivory Silk', and one or two newer ornamental pear trees. All of these trees are relatively disease and insect free, have attributes such as good growth habits (ultimate heights of from 8 to 10 metres), flowers which make them attractive, and any fruit that is produced (in the case of the ornamental pears, only) is small (about one centimetre in diameter).

These trees are only a small sample from a fairly lengthy list of dwarf or ornamental trees worth considering for all of the aforementioned reasons. The Canadian Garden Council recommends a visit to your favourite garden centre or nursery for advice on which of the smaller trees are hardy in your area.

Autumn is a superb season for the planting of trees, and now is the time to prepare to plane or or several trees at your home.

Behavioral conditioning may help body resist diseases

By JOHN EBERLEE

A University of Toronto immunologist has show that the brain's perception of sensations can influence the body's ability to resist invasion by foreign tissues.

Using behavioural conditioning - a standard technique of psychological research - Dr. Reginald Gorczynski 'trained' mice to associate a certain flavour with impaired immunity. In doing so, he found he could prolong their ability to accept skin grafts.

Normally, drugs that suppress the immune system, which protects the body against infection, are necessary to prevent the body's rejecting foreign tissue, such as transplanted organs.

The logical next step is to see whether behavioural conditioning techniques can be applied to human transplant recipients in hopes of reducing their need for immunosuppressive drugs, says Gorczynski. Although essential to the survival of transplant recipients, long-term use of these drugs can prove dangerous; known side effects range from hair loss and gastrointestinal upsets to kidney failure and cancer.

In conducting his research, Gorczynski borrowed from Ivan Pavlov, the famous Russian physiologist, and Dr. Robert Ader, a University of Rochester psychologist.

Pavlov, the first scientist to use behavioural conditioning, trained dogs to salivate in response to the ringing of dinner bells.

Decades later, Ader accidentally conditioned mice to associate saccharine-flavoured water with injections of cyclophosphamide, an immunosuppressive drug. Weeks after the mice were taken off the drug, Ader was astonished to find that sweetened water, by itself, could lower a mouse's immunity.

Gorczynski's mice, like Ader's, were given sweetened water along with cyclophosphamide before receiving their skin grafts. Following the transplant operations, the mice were given regular doses of saccharine but no more immunosuppresants.

"By using conditioning, we got them to accept the grafts for 25 to 30 days," reports Gorczynski. "Normally, mice reject grafts in only 10 to 12 days."

He says it's not entirely clear how an animal's perception of flavour can influence its immune system so dramatically. However, scientists have pinpointed a number of chemicals that may communicate messages between sensory centres in the brain and the immune system.

"The basic science is only now being unravelled but it appears there's a lot of crosstalk going on," Gorczynski says. Chemicals once thought to be specific to the brain are now being found in the immune system - and vice versa.

These chemical 'interconnections' also appear to exist in humans. Logically, it may be possible to condition people's immune responses like those of the experimental mice.

Gorczynski speculates that people may even someday learn how to consciously regulate their immunity - just as they can now regulate blood pressure using biofeedback techniques.

"The problem is finding some way of monitoring the immune system so individuals know immediately whether their thoughts are having an impact. There aren't too many immune responses we know of that change as quickly as blood pressure," he says.