

# **ABSTRACT**

## **Computer Based Learning**

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New information and communication technologies have revolutionized the world economy, contributing significantly to the globalization of trade, capital and corporate management.

Will education be affected in the same way as markets, banking services and information? It is now very easy in most developed countries, and even in a number of developing countries, to log on to the Web site of a university in order to enroll as an e-learner and obtain a degree, without having to travel great distances in order to do so. What will be the consequences of these technological advances? Although many will be positive, others will be perhaps less so.

Amongst the foreseeable advantages of e-learning is that it will enhance the ability of educators to address different audiences and allow them to diversify their teaching style. Many courses are given by international professors or experts, who have had to develop excellent training materials in order to overcome the obstacles of distance and absence of contact with students, and who use innovative teaching methods in order to maintain students' interest. The competition is thus generated with the traditional teaching methods used in many national or local institutions can only be of benefit to all students. Another advantage is that of promoting lifelong learning. It is no longer necessary to stop working, nor to leave the workplace, in order to be able to pursue further studies. Thus many students will be able to follow university courses from home, and employees will be able to take a training course whilst at work as long as their employer will grant them the time to do so. Another advantage, as would be seen in this thesis, is that e-learning allows problems to be solved that may be difficult or impossible to solve by hand. E-learning also lowers costs, and is the most cost

effective way to deliver instruction and information. E-learning is a chance for lifelong education to become a reality, and not a mere slogan.

E-learning is nevertheless the source of much debate. Education cannot be looked upon as a mere product to be bought or sold in the same way as one would buy a book or a car. Education transmits values, contributes to forging national identity, and to strengthen national integration and solidarity.

Of course e-learning is more than just online distance education. Any programme that uses information and communication technology to enhance the learning process may be considered to fall into the category of e-learning.

In this thesis, a program is written to determine whether certain words will be accepted by a Pushdown Automata based on certain conditions specified by the user. It also allows an arithmetic expression to be converted to Reverse Polish Notation. This will allow users to not have to perform these kinds of operations manually.