

# THE USE OF TVCS AS POLES OF DISTANCE LEARNING, AN APPROACH SELF-SUSTAINABLE FOR GROWTH OF EAD IN THE NATIONAL

GIOVANY F. TEIXEIRA<sup>1</sup>

<sup>1</sup>Instituto Federal do Espírito Santo (IFES) - Campus Cachoeiro de Itapemirim

Caixa Postal 527 – Cachoeiro de Itapemirim – ES – Brasil

[giovany@ifes.edu.br](mailto:giovany@ifes.edu.br)

**Abstract:** The article will address the use of Technology Vocational Centers as poles of the distance education, that are intended to raise the educational level of the regions, working with the educational development of the country, and mainly serve the demand for labor that grows every day due to technological innovations. During the development of article will be exemplified two TVCs to be implanted in the State of Espírito Santo and will be conducive to adequacy the this method of teaching. Keywords: Technology Vocational Center, poles of the distance education, educational development, professional expertise, digital inclusion.

## 1. Introduction

The education at the national level is in the process of major changes in search of care to the demands of contemporary society.

The EAD - Distance Education, enter in the restructuring process of education to achieve municipalities before limited education quality found in major centers.

The Technological Vocational Centers are units of education concerned with the reintegration of individuals in the labor market through quick courses and practical nature.

## **2. Analysis of distance education on the national scene**

The federal government is working on the development of undergraduate courses through distance UAB - Universidade Aberta do Brasil in partnership with Public Universities of Federation and Public Technology Centers of Federation. The idea of this program is to train quality of the regions that were attended by virtually no federal institutions, besides bringing new courses for both regions served by the network and to federal regions that are outside the area of performance of Universities and the Federal Centers for Technological Education.

### **2.1 Analysis of distance education with focus on regional poles**

There are two places where the student, the EAD, effectively learns:

- In the pole, integrated with other colleagues and with the support of tutors the distance and laboratory.
- Outside the pole, usually at home or at work via the Internet or printed material, usually in isolation.

In the pole is crucial to find an appropriate physical structure, some key items for the implementation of any pole:

- Video Conference Room: the key to real-time communication of activities necessary for the development of education.
- Multimedia Library: a student must have a space to search for new information, the library is essential in this context,

- Laboratory of Computer: access to Internet and software tools are preponderant in the classroom.

### **3. Technological Vocational Centers**

Technological Vocational Centers (TVCs) - are units of teaching and professionalization, dedicated to the dissemination of access to scientific and technological knowledge in the area of technical services and the transfer of technological knowledge in the production process, focused to the dissemination of access to scientific and technological knowledge in the area of technical services and the transfer of technological knowledge in the production process.

TVCs have focused in practice, work courses practical directed to the regional vocations, seek to improve production processes, seeking the integration of sustainability by local actors, this is a stronger indication that the private initiative enter with the resources and the public power, in its three spheres (municipal, state and federal), enter with the rest.

The government split the TVCs in three types:

- ✓ **Professional Training and Support System for Teaching in Science:**

These TVCS may act in courses in the areas of education, technical, professional, on several levels, mainly to meet the demand educational site and should have a strong connection with Public Universities of Federation and local schools of high school or technical partnerships with universities and federal, CEFET, CENTECs, institutions and institutes of scientific and technological research.

This unity of basic vocational training and provision of services will include the work of teachers and high-level servers as well as a structure composed of several laboratories:

- Laboratory of Physics, Laboratory of Chemistry, Laboratory of Biology, Laboratory Analysis of Water, Land and Food, Laboratory of Computer Science, Office of Electromechanical.

It will be part of the structure the following elements:

- Hall of video - properly equipped with videocameras, screen and projector, microphone, wallets, computer, will ensure the realization of the distance courses through infoways and may serve as small audience.
- Multimedia Library - has in its collection books, magazines, CD-ROMs, videos, an appropriate environment for studies and consultations.
- Polyvalent room - the classrooms are properly installed for the conduct of lectures, equipped with overhead projector, blackboard, and portfolios.

✓ **Professional Training in Support of Demand for Local Production:**

In this TVCs , the concern is more directed to the local or regional demands with the potential development of economic-productive , in sectors already existing forms of precarious or in need of improvement, or in emerging sectors.

This TVC has to have a basic structure in the following way:

- I. Video Conference Room
- II. Multimedia Library
- III. Laboratory Informatics
- IV. Classrooms

✓ **Professional Training in Support of Science Education and Support for Local Productive Demand.**

The TVC system supports the teaching of science with laboratories for basic sciences focus for scientific experimentation and practical classes, as well as professional training geared to technical services or processes and also supports the professional training geared to the demands local or regional with potential for economic development-productive.

**4. Technological Vocational Centers as Pole of Distance Education**

The TVCs are schools that can become pole of learning at a distance, mainly due to adequate infrastructure they have. A unit technology vocational has a technical group to guide teaching able pupils, and the availability of teaching materials geared to practice as a curricular component.

The Cefetes is implanting a network of TVCs, thus, it can act as an academic institution and educational support to allow scheduled visits of students of distance education to the units of the system presence Cefetes so that these students have access to laboratories do not exist in Technological Vocational Centers, allowing a current distance of the same quality of a course presence.

The TVCS have great advantages to become poles of EAD:

- To become poles of EAD are using the same physical space and the same equipment that were installed for teaching presence.
- Due to the size and structural primarily to laboratories equipped, do not need the frequent movement of students to the poles.

**5. Examples of the Use of TVCS as Poles of EAD**

Below are presented two TVCs proposed to be implanted in Espírito Santo, the Technology Vocational Center is the first solid waste to be implanted in Cariacica, and the second is the Technology Vocational Center Automotive to serve the region of Iconha. Both with capacity structural and educational to minister courses the distance.

## **5.1. Technology Vocational Center Solid Waste**

The TVC of solid waste aims to work in industry ecomércio (reuse of electronic circuits, construction, among others) and provide digital inclusion in the region.

### **5.1.1. - Contextualization of the TVC**

The company Marca Ambiental located in Cariacica, is a pioneer in the treatment and final destination of solid waste and responsible for establishing the first private landfill in the state. The company Marca Ambiental, created in 2006 by the Institute of Socio-environmental (Imadesa) that is characterized as a non-governmental organization , consists of members who want to be in the reference segment of ecomércio and implementation of solutions to socio-environmental responsibility with business.

The TVC will have a space provided by the company Marca Ambiental and their work will focus on improving the qualifications of persons involved in the recycling process. The teaching method of the TVC of solid waste, based on courses presence, quick and practical, to place the student in the job market quickly.

### **5.1.2. - TVC Solid Waste as a Pole of EAD Course for Technical Computing**

The objective of the technical course in computer science is to train professionals trained for labor market performance in major areas of computing (analysis, design and development of systems, development to the Internet, design and administration of networks, maintenance and support) and developing skills as initiative, persistence, commitment, requirement on the quality and efficiency, setting goals, etc ... This approach requires an advanced infrastructure, computer laboratories with high technology, with software support and Internet access for high speed searches and teleconferencing in distance mode. Therefore, the technical course in computer is an example of course conditions with total to be administered through the TVC Solid Waste, since infrastructure provides the development of learning during the course. The student will receive the institution's materials such as books, handouts and CD-Rom for studies at home and have space for a TVC in the holding of seminars and tests.

The practical classes will be conducted in laboratories equipped with the guidance of tutors for support in education.

## **5.2. Technology Vocational Center Automotive of the Espírito Santo Pole as distance education**

The TVC Automotive aims to bring expertise of the workforce for the local population, especially those that are already included in the automotive sector, both in the management of transport and cargo, as well as repair of parts and accessories, among other. With the size of properly equipped laboratories, the center will be important for the distance courses, such as electromechanical technician course, which can take expertise to the population.

### **5.2.1. Contextualization of the TVC Automotive**

The city hall of Iconha in the Espírito Santo is the main region that stands out in the industry, as it possesses approximately 100 (one hundred) companies

providing services in the automotive area, which employ about 1,528 people, or 13% of the population.

The city of Iconha donate the entire physical structure with the Sebrae, Senai, state government, Ascames, Ascares is seeking partnerships with the private sector, support for membership in the laboratories.

### **5.2.2. Structure and Methods of Work of the TVC Automotive**

The TVC AUTO will include classrooms, administrative area, library media room, video conference and specific sectors such as:

- Central monitoring satellite and / or cell phone, amateur radio central, central and center mapping of performance indicators;
- Laboratories, mechanical, electrical, handling and storage of cargo and traceability and tracking.

### **5.2.3. The TVC Automotive Pole as of EAD for courses in the area of Electro-Mechanical**

With the size of laboratories in electronics and mechanics can be properly equipped for the student study at home with handouts and make their practical classes in laboratories in a range of approximately 15 in 15 days.

The student may conduct such activities in the following laboratories:

- Parts manufacturing, maintenance of engines, assembly of power circuits, assembly of control panels, PLC programming, welding, turning, milling, assembly of electronic circuits.

## **6. Conclusion**



The Brazil needs to improve the educational level and the qualification, the various sectors of education and educational institutions are worried therefore need to meet the demands of industrial and technological development of regions. Due to the characteristics of the poles have EAD, are an important alternative to develop education in various regions, promoting courses in various areas and qualifying the population for the labor market.

The performance of TVCS as poles of EAD will benefit the region, contributing to the improvement of education in these regions and, consequently, contributing to the educational development of the country.

The primary mission of these poles is to bring quality education for all regions and for this, use the entire structure that the TVC has both physical and educational, contributing to the investments made in the implementation of these are not misused.

## References

1. Teixeira, G., Toczek, J. **“Licenciaturas em Informática a distância, uma abordagem estratégica para elevação do nível da qualidade da educação nacional”**, Anais do V EDUD - Congresso Brasileiro de Ensino Superior a Distância, identificação 38555. Gramado, Rio Grande do Sul, 2008.
2. Toczek, J., Teixeira G., Souza F., Caiado A. **“Uma Visão Macroscópica da Evasão no Ensino Superior a Distância do Brasil”**, Anais do V EDUD - Congresso Brasileiro de Ensino Superior a Distância, identificação 38849, Gramado, Rio grande do Sul, 2008.
3. Holanda, A. **“Capacitação Tecnológica da População: Centro Vocacional Tecnológico – Projeto Básico”**. Secretaria da Ciência e Tecnologia do Estado do Ceará, 2005.
4. Teixeira, G., Silva, A., Toczek, J., Tomazini, G. **“ Centro vocacional Tecnológico em Econegócios”**, Anais da II JPCEPT – Jornada da

Produção Científica em Educação Profissional e Tecnológica, São Luís,  
Maranhão, 2007.