



Including e-commerce as a content in educational curricula: further questions.

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relationship with how subjects perceive reality. Such concepts are known as *cross-curricula* in the educational field.

To sum up, there is a visible need to incorporate such contents into the curricula of study courses to consolidate the link between what the educational institutions offer and what students and organizations actually experience.

The present work has been made with data collected from the prestigious website of the CACE, and workshops and conferences focused on this topic. The work has been formulated into four questions: 'Which is the contextual situation in Argentina that makes e-commerce so important?'; 'What are the characteristics of e-commerce?'; 'What kind of educational content can be included into this topic?' and 'What is truly needed for e-commerce to be included in the educational field?'

Introduction

To begin with, the goals of this article are to analyze characteristics, terminology and particularities of electronic commerce, a relevant issue due to its rapid implementation in our country. Moreover, it aims at reflecting on how it can be included in study courses that focus on pre and university levels.

To achieve these objectives, a summary is made on the perception held by the Argentine Chamber of Electronic Commerce (CACE by its Spanish acronym), the agents involved and the operations they carry out to fulfill basic roles.

Some significant concepts are brought about, which have a close-knit

Summary

In order to go further with the topic, let us answer the questions that arose:

Which is the contextual situation in Argentina that makes e-commerce so important?

The research carried out by TNS Argentina for CACE enables us to comprehend the composition of supply and demand, Argentine demand in particular, and of the several aspects that contribute to the development of the process in each of the stages involving the online purchase, from the advertisement of a product or service to the means of payment, until it is delivered, and how industries work in general. In its website, CACE states, **"E-commerce in Argentina is growing steadily"**. The data highlighted in the half-term study made on e-commerce in Argentina showed how the perspective people have on it has changed:

- More than half of the companies consider that the performance e-commerce had in 2015 was better than during the first six months of the last year. Top 3 of the products most bought by Argentines (per sold unit): tickets for shows: 49%; footwear and clothing: 43%; electronics: 39%. On average, each user bought 2.78 products/services.
- More and more buyers dare to sell: 33% of users-buyers at least sold one item in the past six months. The increase in the mixed profiles (buyer + seller) boosts the activity.
- There has been an increase in Argentines' confidence as they feel now able to share their personal data in the web. The number of people that refused to accede to e-commerce decreased from 15% to 5%. They used to experience mistrust and feel unsafe as regards exposing their banking and personal data.
- Finance is the most important aspect when buying. Eight out of ten Argentines think that installment credits and credit cards are central when buying. On average, six out of eight people prefer these modalities.

What are the characteristics of e-commerce?

In his workshop about software engineering, Iván Palacios Orea (n.d) made remarkable contributions on e-commerce praxis, which this work describes as follows.

E-commerce is a general concept covering any kind of business or commercial transaction. It relies on telecommunication networks and has an electronic format. Electronic money is the tradable currency used.

It includes exchanges of assets, services and electronic information. It also includes other activities, such as promotion and advertising, corporate image campaigns, marketing in general, networking among commercial agents, post sales support, market research and development, electronic tendering and support to share business.

E-commerce can be understood as the automation by means of electronic processes of information exchanges, transactions, knowledge, assets and services. These may involve or not a financial compensation in terms of a means of payment. There are many people who consult these services but do not buy electronically.

Thus, e-commerce has a clear-cut profile defined by four kinds of agents:

- The commerce offering the asset, service or information (companies, entrepreneurs, organizations, etc.).
- The financial entity offering the means of payment.
- Telecommunications operators offering the communicational network.
- Logistics operators delivering the products.

As regards these four agents, there are two more that emerge to complement and expand the new business activity:

- Service supplier, the one the client sees as the supplier of the legal telematic access to information, no matter who owns the communications infrastructure.
- Intermediary or 'infomediary', who takes contents from other suppliers and commercializes them electronically under the name and image of the final client.

Therefore, e-commerce is characterized by three axes, which are complementary and interrelated:

- Logistics, or physical exchange of products, according to logistics chains of supplying and distribution.
- Transactional, enabling information exchange by means of messages and documents in electronic form.
- Financial, or means of payment, related to information, assets and services exchange.

According to Wikipedia, there are twenty-five terms that represent e-commerce:

Number	Term	Definition
1	Internet	World wide network structure connected to any kind of computer at the same time. It was originally developed in USA for the military. Then, it was used by the government for academic and commercial research and telecommunications.
2	Intranet	Private network of computers, based on Internet standards. It is used to link informative resources within an organization (from texts to multimedia documents, from data bases to documents management systems).
3	E-commerce	Delivery of information, products, services, payments by means of telephonic lines, computer networks or any other electronic device.
4	E-business	Any kind of commercial transaction in which the parties interact through electronic means instead of face to face or in direct contact.
5	Hosting	Hosting, serving and keeping archives to one or more websites. It is also known as web site hosting, web hosting or webhosting. The kind of companies offering this service is called Internet Service Provider, ISP.
6	Shared Server	It is a kind of hosting in which several clients share the same server.
7	Virtual Server	Partition of a server that, through different software, enables several virtual computers inside a single one. Virtual servers have a limited use of the CPU and RAM memory, that are exclusive for that SDV of the server, and each of them works by its own inside a same server. Therefore, if one of them is administered wrongly and is overloaded, it will affect the functioning of the others.
8	Dedicated Hosting Service	It is a type of Internet hosting in which the client leases an entire server not shared with anyone else. It may be expensive.
9	Dedicated Internet Connection	It enables permanent access to the Internet with a higher capacity, low fixed cost –independent on the connection time and the volume of data transferred. There are companies offering ADSL, T1, Wi-Fi, Dial-Up, etc.
10	ERP	Enterprise Resource Planning is a set of systems for management information is the integrated management of core business processes, often in real-time and mediated by software and technology. ERP provides an integrated and continuously updated view of core business processes using common databases maintained by a database management system. ERP systems track business resources—cash, raw materials, production capacity—and the status of business commitments: orders, purchase orders, and payroll.
11	CRM	Customer Relationship is an approach to managing a company's interaction with current and potential customers. It uses data analysis about customers' history with a company and to improve business relationships with customers, specifically focusing on customer retention and ultimately driving sales growth.
12	SCM	Supply Chain Management is the management of the flow of goods and services, involves the movement and storage of raw materials, of work-in-process inventory, and of finished goods from point of origin to point of consumption.
13	Business Intelligence	BI comprises the strategies and technologies used by enterprises for the data analysis of business information. BI technologies provide historical, current and predictive views of business operations.
14	Value Chain	It is a set of activities that a firm operating in a specific industry performs in order to deliver a valuable product or service for the market. The concept comes from business management and was first described by Michael Porter in 1985.

Number	Term	Definition
15	Applications Cluster	It is a group of applications used in scientific computing. The objective is to achieve a high performance by optimizing processing times. Some of these apps are ERP, BI, OLAP, KWS, etc.
16	Back End	In general, it refers to the final state of a process. It is the opposite of front-end, which is the initial state of a process, administrator interface or application programmer.
17	Front End	It refers to the initial state of a process. It is the opposite of back-end, which is the final state of a process or final user interface.
18	SWOT Analysis	Strengths, weaknesses, opportunities and threats and is a structured planning method that evaluates those four elements of an organization, project or business venture. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favorable and unfavorable to achieve that objective.
19	Market Research	It is any organized effort to gather information about target markets or customers. Market research is a very important component of business strategy. It provides important information to identify and analyze the market need, market size and competition in order to be able to make strategic and operative decisions.
20	Brick Business	Brick-and-mortar businesses are companies that have a physical presence (e.g., a retail shop in a building) and offer face-to-face customer experiences.
21	Click Business	Companies that only have a virtual presence.
22	Brick and Click Business	A company that integrates both offline (bricks) and online (clicks) business models.
23	Business to Business	B2B. It is a kind of e-Commerce in which commercial operations are among companies and not among final users.
24	Business to Consumer	B2C. From company to consumer. It is a kind of e-commerce in which commercial operations occur between companies and a final user.
25	Business to Government	B2G. It consists of optimizing negotiation processes between companies and governments through Internet. It is used in specialized websites related to public administration.

What kind of educational content can be included into this topic?

Yus (1997:104 in Fernández Batanero n/d) states that schools need to bridge the gaps between educational contents and what the students actually perceive and acquire through their daily experience from reality.

In this case, the distance is about the contents of commercial subjects taught and learnt in educational institutions and what is seen and experienced by students in their homes; for example, when they buy certain items through a platform, the most common ones being clothing and trips.

The student is born into a technological world and, as a consequence, technology has to be extended into educational institutions, so as to not alienate students.

David Buckinhan (2008) is aware of the use of information technology. He realizes that schools have no link neither with the way students relate to information nor with the ways they choose to communicate. The most dangerous aspect of this situation is that schools are every time more and more estranged from what students actually care about.

Authors like González Lucini (1994 in Fernández Batanero n/d) develop in full cross-curricula aspects and claim these are contents that have to be included into the schools' curricula. They account for three basic characteristics of these contents:

1. They refer to problems and issues which are quite crucial, that are produced in our era and it is urgent to take personal and collective stands as regards them. These are issues such as violence, underdevelopment; discrimination, inequality, consumerism and waste against poverty and hunger in the world, environmental degradation, habits impinging healthy lifestyles, etc.
2. They have to be considered into curricula to provide a double perspective: on the one hand, to keep them high on the agenda and provide them with the context and issues of the contemporary world. On the other hand, to provide them with a functional value and an immediate application so as to comprehend and find a possible positive transformation of reality and its problems. Cross-curricula contents arise from reality and social issues, as they are interdisciplinary.
3. They are related to values and attitudes. It is intended that, by planning and developing these contents, and from analyzing and understanding reality, students elaborate their own critical thinking and, when facing social conflicts, they are able to freely choose how to act and behave according to the rational values assumed.

We are interested in taking Information and Communications Technology (ICT), and especially **e-commerce** as cross-curricula. These are our reasons:

- a) Its close relationship with **contemporary issues of the world**. In this sense, the emergence of technology, mainly based in digitalization (access with code): understanding what it is, why we use it and how it influences our behavior.
- b) Its contribution to **functional values** or their immediate application to change reality. E-commerce is part of organizations and it is increasingly covering more areas. We have to understand how it is approached, whether it is a cross-curricula content or resource.
- c) Because it is **linked to other disciplines** of commercial, industrial and services areas. The challenge seems to be how to grasp the intangibility of e-commerce in which several disciplines take part.

Which are the most important factors to make e-commerce part of the educational sphere?

Following Cucuzza⁽²⁰¹⁵⁾, it appears relevant to validate the four aspects the author considers significant as regards informatics, and to make a comparison with e-commerce:

1. The role e-commerce has in education.
 - 1.1. e-commerce as a subject,
 - 1.2. e-commerce as a content into a thematic unit of a subject or several subjects,
 - 1.3. e-commerce presented with a simulator in any of the preceding items.
2. Teacher training: so that teachers in charge of resources related to this topic can make use of the contents of other disciplines related to it.
3. Virtual Pedagogical Facilitator: so as to grasp, systematize and organize contents related to e-commerce. Also to gather and coordinate teachers and the areas with resources. These can be thought of as people with simulators facilitating e-commerce (introduced as games) that help learning logistics, transactions and financing. This constitutes a real challenge for informatics.
4. Technical Referent: person in charge of solving technical issues exclusively. The facilitator could also be in charge of it but it does not seem convenient to assign them such a task. Ubicación en la curricular del tema

Conclusion:

According to what was exposed, a real need to elaborate this topic emerges, a need to open our eyes to contents which are not new, but rather presented in a different way. For example, bank operation is part of the commercialization of assets and services. It constitutes the third layer of e-commerce, known as "electronic banking". This will cater for the different banks offering services to companies, organizations or entrepreneurs.

The content to teach-learn is the commercialization of a certain asset or service, of a public or private bank financial agent, the corresponding means of payment, etc. What is learnt-taught among parties must be developed, planned, designed among parties that are not face to face, so it has to be automated through electronic processes, refereed by a facilitator (person) and a simulator (support). The idea is to move from on-site operations to virtual ones, from non-automation to automation.

Therefore, new educational contexts are needed, in which virtual pedagogical facilitators in e-commerce can take part. These have to reunite competences (activities, experience) and capabilities (skills, qualifications). These are the two sides of the same coin to start educating in this particular topic in study courses related. Otherwise, students are going to conclude that educational institutions do not understand their own way of buying and selling in their daily reality.

The challenge must begin immediately. E-commerce is a worldwide tendency, and Argentina is no exception.

Bibliography

- (1) Cucuzza Gustavo (2015) "Es el momento de considerar a la Informática como una materia curricular" Red Latinoamericana de portales educativos (RELPE). Consultado en: <http://www.relpe.org/es-el-momento-de-considerar-a-la-informatica-como-una-materia-curricular/> (25/11/2016)
- (2) Cámara Argentina de Comercio Electrónico. (2015) Ciudad Autónoma de Buenos Aires. Consultado en: www.cace.org.ar
- (3) Buckingham, David (2008) "Más allá de la tecnología. Aprendizaje infantil en la era de la cultura digital" 1era Edición Buenos Aires Ed. Manantial.
- (4) Fernández Batanero, José M (s/f) "La transversalidad en la Educación Primaria" Modulo III Universidad de Sevilla. Consultado en: http://www.juntadeandalucia.es/averroes/centros-tic/41010435/helvia/aula/archivos/_13/html/50/acciontutorial/PDF/05batanero.pdf (25/11/2016)
- (5) Palacios Orea, Iván (s/f) "Taller de Ingeniería de Software"- Unidad 2 Ingeniería del Software para Comercio Electrónico. Facultad de Ciencias Exactas- Consultado en: <https://sites.google.com/site/talleringenieriasoftwareivan/unidad/2-3comercio-electronico-concepto-de-comercio-electronico-y-tipos-sistemas-de-comercio-electronico> (25/11/2016)
- (6) Yus Rafael. (1994). Aula de Innovación Educativa. [Versión electrónica]. Revista Aula de Innovación Educativa 32
- (7) Wikipedia. La enciclopedia libre. "Glosario de términos sobre Comercio Electrónico". https://es.wikipedia.org/wiki/Comercio_electr%C3%B3nico (25/11/2016)