

Transfer of Information derived from the Content of Virtual Products of Mass Distribution

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ABSTRACT

The Web Sites have different characteristics, information content and can be designed with many different purposes. In educational environments this kind of objects can be used as virtual classrooms to organize, to share, to transfer, to visualize information., It has been detected that one of the factors that modifies and guides the interaction processes with a person as well as the activation of the Focus Attention subsystem in these Virtual Products (VP) is the kind of information that these objects contain. On these preliminary studies based on the use of networks, the behavior of the activation of sensory mechanisms in relation to the compositional elements that integrate the VP was analyzed in a group of university students in the Design area. The results shown that there was a transfer of information from Top to Bottom. The intention of these studies is to understand the particular behaviors that are derived from these massive objects.

Keywords: Virtual Product, Web Site, Focal Attention, Transfer of Information, Human Interaction

INTRODUCTION

We begin by emphasizing the fact that the introduction of various technological devices in work environments has modeling human behavior., among which we can mention the incorporation of new activities into daily life, new patterns of behavior, links with various learning styles, tasks, distortion in the perception of time, transfer and consumption of information among many others [1]. In relation to the transfer of information linked to technological devices and various virtual products the introduction of new concepts and the link with various languages are observed from the interaction with a wide range of digital information systems. Therefore, it is important to consider that language is a factor that affects the interaction processes with Virtual Products (VP). This kind of objects from the perspective of disciplines such as art and design can be conceived as Meta-Representations with different levels and characteristics. The intention of these studies is to observe the behavior of people in relation to the languages that integrate VPs during interaction processes, the relevance is that this kind of massive products have special characteristics that generate specific human behaviors and where the Language used in these media is closely related to high cognitive processes.

TYOLOGY OF LANGUAGES IN VIRTUAL PRODUCTS

A language can be defined in a simple way like a system of signs, in turn there are multiple types of languages as well as various functions on them. However, one of its most relevant functions according to Pinker is communication [2].

Today it is easy to recognize an increase in the mass production and distribution of intercultural objects such as many of the virtual products with which we live daily. Each virtual product in relation to the user has very particular visible characteristics and an internal structure. Most users do not realize the existence of the internal composition integrated by abstract codes that determine functions, actions, and can be described like a rigid logical structure. Consequently, virtual products have a visible structure in relation to the user, which can be categorized based on Talmy [3] in Open Classes of Linguistic Forms (OCLF) and a non-visible structure belonging to closed classes of linguistic forms. In this sense, with regard to open classes, the entire typology of objects that integrate the virtual product can be mentioned such as texts, control objects, images, icons, videos, animations, animated gifs, static objects, input fields among many others., And on the other hand in relation to the closed classes the logical structures of the programming codes and sounds can be cited, and as mentioned in most cases are not visible to the user. In addition, each virtual product has its own rules, configuration and information.

From this general description, people as users, face the recognition of these classes of linguistic forms that constitute the virtual object. It is important to mention because this recognition orient not only the interaction process of a person but also the understanding of the objects and their function. Therefore it has been observed from the use of networks that the interaction with a wide range objects' typology tend to be closer to the type of symbolic objects, that is, to a complex objects that the user has previously learned. The introduction in a culture of new symbolic objects originate also the introduction of new concepts and its interpretation, also the introduction of new tasks derived from the function of the objects and its learning.

Concepts can be described from very different points of view and it is natural to incorporate new concepts with the introduction of various intercultural products in certain environments. Faced with this, there is always a learning and adaptation process. As can be seen, each object has very particular qualities which generate certain effects on users, in this sense it has been observed that in the shorter interaction times with these objects users tend to identify complex objects such as symbolic ones compared to another typology of objects. A wide diversity of problems have been observed in the design of these resources for learning environments not only in the areas of design and artistic but in general terms in the humanistic areas, where the logical languages of programming are not part of its object of study. The closed classes of linguistic forms are no visible for these areas and, although invisible, they directly affect the persons. With this a clear dependence is observed in the understanding of the use of technology, its functions, scope and disciplines that are increasingly subordinated to others if the incorporation of new knowledge is not encouraged.

VIRTUAL PRODUCTS OF MASS DISTRIBUTION

Today there is a wide range of Virtual Products (VP) derived from the interrelation of a media diversity. They have a wide range of characteristics which we can see in applications, images, websites, control objects, videos, hypertext, etc.

Websites have a broad range of characteristics, designs, information and can be defined as information systems and in more significant terms as a digital meta-representation. In educational environments of the artistic and design areas they can be used as virtual classrooms to organize information in a diverse way., However in the aforementioned environments, the most recurrent structures are the kind of hierarchical and linear organization. This structure basically obeys to the limitations that teachers in these areas may have in relation to the use of the tool, knowledge of it, technological device used, infrastructure, among many others. The limitations that a person may have with the design and use of these tools in certain areas of knowledge generate effects on users and can be reflected in access to information, browsing behavior, search behavior, factors described by Allen Bryce since 1998 [4]. In addition to these factors, we have observed that they influence a large number of temporary micro-processes of interaction as well as in the Attentional processes and their Breaking points (BPs), the transfer of information and emotional

responses. It is important to mention that the assignment of the task and the interaction time also modify the behavior patterns of a user. All these factors are directly related to the characteristics in the configuration of the Websites as well as to the use of the technological device through which the user is interacting. Consequently, it is observed that not only the characteristics of the technological device affect the user but also the design or configuration of the Virtual Product.

One of the components that has been observed as relevant in relation to the temporary micro-processes of interaction with a Website is the language. Language as a dynamic entity acquires different meanings depending on the context and we currently observe that the medium also influences the orientation of meaning based on the rules and configuration of the medium used. In this sense, Websites in an academic environment have specific characteristics, where the use of the written word is essential in relation to learning processes. The meaning from the printed word keeps some uncertainty but also provides a range of understanding. In addition to this, it has been observed that the temporary micro-processes of interaction are reduced in certain websites for learning environments and increase in relation to sites intended for entertainment. One of the factors that affects the interaction processes is the type of language used in the structure of the site. From these reflections it is observed that regarding the transfer of information from various virtual objects to a user in a wide range of environments, there is a minimum interrelation of four systems: one natural (human) and three artificial: one relative to the technological device, another related to the Virtual Product as a medium and another related to the system of signs that integrate the virtual product. These systems affect each other in the interaction process and are oriented from the execution of various tasks.

PROCESS DESCRIPTION

To carry out these studies, it was determined to observe the effects generated by the Open Classes of Linguistic Forms (OCLF) of a virtual product in a group of users in a local environment. Some environments of interest are the artistic and design ones. In which certain devices have been introduced as part of the learning processes and they could be generating distortions in their object of study. One of the distortions detected is that the construction of reality in the human being is carried out from its fragmentation through a variety of Micro-Temporal Interaction Processes [5]. The studies were developed from observation in 12 Normal vision (Nv) users in relation with a specific device and with a specific VP. Networks were modeled to represent the process. In which the construction and relationship between the sensory mechanisms of the user with the open linguistic forms in a Website were observed. The process was analyzed in three stages: The first one where the relationship between the activation of Sensory Mechanisms (SM) with the OCLF in the Website in maximum and minimum interaction times were observed. The second stage where the relationship between the activation of sensory mechanisms with another kind of meta-objects that integrate the Website were observed. And the third stage where the behavior in the user in relation with the kind of transfer of information obtained from the website where observed.

METHODOLOGY

In these studies, the activation of Focal Attention (PAF) Sub-system was determined like an anchor point between the selection of one kind of OCLF and discrimination of them. The observation was carried out with a group of university students between 20 and 39 years old in a local environment from a design area in Mexico. One of the most important characteristics of Website is that it was designed for a specific class. The methodology used for these studies was the observation of qualities of human behavior with a specific VP and the use of networks to visualization and comparison of data. The processes of interaction between users and VP were observed on three stages and with the assignment of the natural task: 1. Locate the Website on a flat screen device 2. Enter the Website object. 3. Explore the Website.

Figure 1 shows an example of fragmentation in reality that User number 4 realized in the process of interaction with the Website. In fact, each user executed a different number of cycles of interaction which indicates that the processes are variable even if it is the same object. However the differences lie on in the person, in the device and the kind of digital meta-objects. On this example the person executed 267 correlations between SM. The most active SM were Proprioception, (Prop), gross motor Interaction (Img) and visual Interaction (Iv). The less active was related with fine motor interaction.

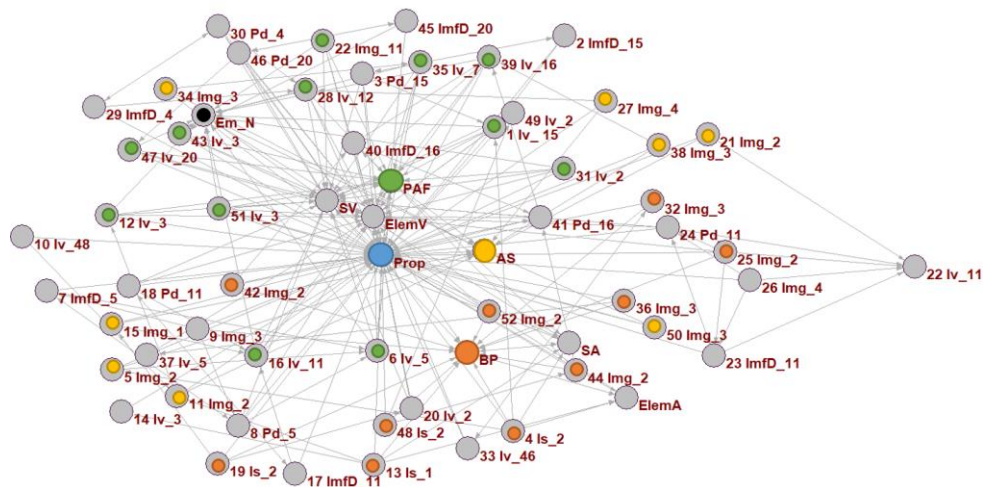


Figure. 1. The Network show the relationship of the sensory mechanisms with open linguistic forms, meta-objects and SM. User 4. 315 secs. Where: BP=Break Point, ImfD=fine motor Interaction with Fingers, Pd= digital Pressure. SV=Visual Symbols. Elaboration: L. Olmos & J. Gil 2021

In the first stage the relationship between the activation of Sensory Mechanisms (SM) with the open linguistic forms in the Website in maximum and minimum interaction times were

observed. On this sense the SM closest on this example to the OCLF was the Iv and the SM less related with OCLF was sound Interaction (Is). This pattern was detected on maximum and minimum time of PAFs. Also it is important to stand out that Emotional responses were close to OCLF. The OCLF most used on the website were Visual Symbols (SV) and Visual Elements (ElemV).

In the second stage the relationship between the activation of sensory mechanisms with another kind of meta-objects that integrate the Website were observed. In this sense SV were the most abundant OCLF which integrate the Website. Another kind of meta-objects detected were the ElemVs, control objects, among others and showed an interesting inter-relation., The ElemV were related to a greater extent with Iv. Nevertheless, they were far from emotional responses. Derived from this we could observe that user privileges the significant elements over the non-significant on this kind of VP. This pattern was observed in all users in the local environment. And control objects are the kind of closed classes of linguistic forms which are visible but the most important use is navigation, that is, user recognize them for this function but their meaning is no related with a specific topic of the class, this kind of meta-objects were related with the activation of Prop, Iv, ImfD and Pd

In a third stage the behavior in the user in relation with the kind of transfer of information obtained from the website where observed. BPs were closer to Prop and SVs, and in the minimum time the BPs were closer to the SV, the ElemV and the Prop. Which showed a greater disruption in meta-objects. Likewise, the BPs in the maximum time were related to external factors to the individual from the activation of the Is. While in the minimum time the activation of SM related to processes internal to the person was recorded from the activation of the SM of the Img. The BPs were no close to OCLF but were close to spatial elements like Prop. Also, the second most active SM in all process was Img which was close to spatial elements.

DISCUSSION

With the results obtained, it was perceived that user in an academic environment using the Website in both, maximum and minimum interaction times, shows a relevant closeness in relation to the SV as part of the OCLFs that integrate the virtual object, likewise, the SV was the factor directly linked to the Em. Although ElemV are part of the language of these communication systems they do not seem to be a relevant factor to the user during the exploratory processes. Each user shows cycles of interaction differentiated in the number of processes, activation of SM but the most active SM was Iv for all group. The second most active SM was Img which was close to a spatial location. Table 1.

Table. 1 Shows the correlations with each SM. Where: P.time=Average time

| U | Img | Iv | Is | ImfD | Pd | Prop | P.time | OCLFs |
|----|-----|------|-----|------|-----|------|---------|-------------|
| 12 | 888 | 1046 | 337 | 235 | 390 | 639 | 313.26s | SV ElemV |

CONCLUSIONS

In this study an approximation could be obtained in how a type of OCLF –as a component of a virtual product- influences the behavior of a group of persons in a specific environment. This behavior should vary with other kind of OCLFs, devices and in other environments. Therefore, it is important to emphasize that a visible language is a relevant factor in relation not only in the activation of SM but also is related with Em response given by the person. Consequently, persons have a direct contact with the open linguistic forms that integrate the virtual object and they are receptive to their meaning in short times. In the case of closed classes of linguistic forms the meaning is linked with a specific function of the object which determine the interaction with the website, so they directly affect us but not directly with its specific meaning. So for the person there is not a deep conscious in the linguistic structure that integrate them. In general terms, the visualized meta-objects that we have called meta-representations provide the main meaning to the user from which the behavior is oriented. The transfer of information is carried out by the interaction of input and output channels in a non-lineal way, where the process with contemporary technology is always initiated by the person. The transfer of information in this typology of objects is being carried out from top to bottom, that is, from the symbolic to no-symbolic elements.

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