

## Graphic Design Values in Educational Gaming Cards

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### Abstract

In history, games have always been there and companion of children and youth. Today, ancient traditional and education games have been forgotten and replaced by destructive computer games. Card games are among the traditional tools that can be used for educational purposes. This article seeks to introduce the process of producing and innovative product called CARTIN and answers to the question regarding the key characteristics of the graphic values of educational card games. The aim of this research is to present a suitable graphical approach for the development of the cards by considering the graphic fundamentals and standardization with respect to wide space and its popularity in the community. The study is practical and conducted with a descriptive-analytical method. The data collection is through library and field survey. The appearance, new design, innovative graphic and packaging materials are significant. Using warm, happy, lively, transparent and bright colors along with appropriate logotypes will be beneficial in organizational identity. Suitable size for the card has been 9 by 5.7 cm and 250 grams glossy cardboard material with a UV cover.

*Keywords:* Graphic design values; Educational playing card; Graphic; CARTIN

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### 1. Introduction

Parent's perpetual concern has always been to fill the leisure time of children and adolescent. Nowadays, due to existing framework in urban life one sees more of computer games as recreation. Computer games despite of their advantages it also has disadvantages such as addiction to these technological tools, reduced physical mobility, social isolation, and limiting the opportunities for investigation and exploration in the environment. To improve the situation it is recommended to use traditional games due to no need for expensive tools, creation of base for familiarity with

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universal rules and creation of social interaction. In this regard, it is possible to refer to gaming card which, since long-time been considered by various groups of society, especially the age group of B and C.

Educational gaming cards includes a set of cards containing information such as words and numbers that maybe written on one side or both side of the card. On educational card, one can write words, history, events, formulas and anything that can be played in form of question and answers. The educational gaming card can be extensively used for learning exercises to help in memorizing by repeating method. The most important option in gaming card is the attractiveness of the game along with education. According to the available resources, number of studies has been conducted in the field of games, toys, education and graphics; but no comprehensive research or thesis has been conducted on the values of graphic design in educational gaming card.

Using graphical values in designing educational gaming card can create a lasting effect is the attractiveness to the audience and visually distinguishes it from other games. The issue that, what values of graphic design is effective in making the gaming cards more attractive has always been a question in the design and production of these words. Today, one witness the reopening of gaming cards by unskilled people resulting in poor quality work. Audience due to lack of attractiveness of the subject and graphic design does not welcome this type of gaming cards. Ultimately it leads to bankruptcy of the manufacturer and eliminates this fascinating educational topic. The purpose of this study is to provide suitable graphic approaches for production of these cards, taking into account the graphic fundamental and standardizing the subject, due to its widespread popularity among the audience, graphic designers, instructors, students, entrepreneurs and publishers. After presenting the research method and presenting the defects of products in the Iranian market, the gaming card design features are presented. Finally, case study on CARTIN brand product has been introduced.

## **2. Literature Review**

The word “game” used by general public includes concepts such as sport games, gambling, chess and betting. In public games there are two players and each tries to win, but the result maybe winner, lose or draw. In the game theory, game is defined as an interaction in which there is a decision between the parties of dependence. An environment in which an impact and mutual reaction is present among the decisions of individuals called as strategic environment. Each decision maker in the strategic environment is called as ‘player’. In each game with different ratios, luck, skill and strategy are involved. Strategy is also a mental and brain skill to play well (Abdoli, 2016: 2). The game has five characteristics that includes stimulation from within the individual, free choice, enjoyment and reality; also player are actively involved (Hughes, 2014: 15).

The game for children is important, because unlike adults, whose usual communication style is verbally, the communication method for children and youth is playing and activity (Hughes, 2014: 7). When playing children and teenagers release their energy preparing for the task in their life, to achieve difficult goals and reduce their weakness. They establish a physical contact, release their needs in competition and learn to come to terms with others. Playing helps this age group to free their imagination, learn their culture; and expand their skills. While playing children express their characteristics and take help from internal resources that can be integrated with their personality.

One of the tools that can help children and teenagers in the above mentioned field is the gaming card. In the 19th century, Chinese currency was considered to be the first game card. During Renaissance, the gaming industry was formed in the south Germany. In 1800, Americans began to make cards with interesting inventions. Before customization of gaming cards in today’s method in

Iran, a kind of gaming card called Ganjefa and Asnas become customary in Iran and most likely was created in the 16th century during Safavid court and then to India. Nowadays, these cards are not used. It is said that Ganjefa was similar to seven hand game and Asenas as poker game. Before the evolution of computers as that in the 60s in Iran; witness the design and production of educational gaming cards. Gaming cards with subjects like cars, airplanes, football team, with respect to their time and facilities had fairly good graphics and print; which became popular in the community.

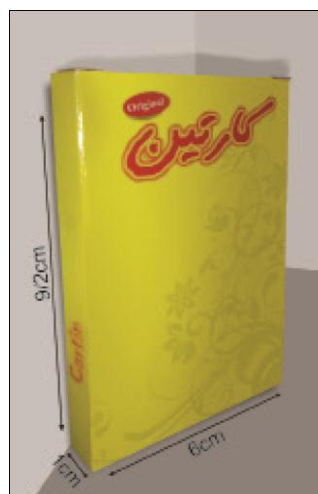
### 3. Research Method

This research in terms of goal is an applied research with descriptive-analytical method. The data collection has been done through library and field survey. The tools used for data collection is based on non-probable sampling of the qualitative and quantitative variables using observation card. The data is analyzed visually and content. The statistical population is the educational gaming card of the age group B and C; and with random sampling technique. With respect to the study of country products the research is considered as a case study.

### 4. Case Study

The visual solution and the benefit of graphic design values are presented in the educational gaming card in the design of an innovative product. The aim of the study is to use the historical background and field study and benefiting from the graphic features. The game card with 'CARTIN' brand with the title 'Continent and cities of Iran', which is one of the lessons of the age group of B and C as the design subject. The CARTIN name was chosen because in terms of meaning and easy pronounce, so that it can be recorded with the passage of time. In Persian dictionary of Moein, the term 'card' means a thin card on which someone's profile has been written or drawn; and in Dekhoda dictionary it refers directly to gaming cards such as Ganjefa.

The card size with respect to 50 by 70 cm cutout and also the edge of work and print register and color calibration at the top of the work considered as 9 by 5.7 cm. With this cut, allows the assembly of 60 cards on the 50 by 60 cm sheet. The extended box according to the card size is 1 by 6 by 9.2 cm. Finally, after gluing and cutting, a box with length of 6 cm, width 1 cm and 9.2 cm height (Fig 1).



**Fig 1** Dimension of CARTIN box (source: author)

Template and conceptual colors are used to design the card box. This means that for European continent the green color, Asian continent is yellow, for African continent is black, American continent is red color have been considered so that these colors are color symbol of the continents and the Iranian cities are shown in turquoise color, where this color is used for tiling purpose in Iranian mosques known as the Iranian color symbol.

In card design, one side of the card has the country flag and in the package of Iranian cities a color picture of most famous sightseen place, history or religion of the respective city and backside of the card, the geographical location of the city on top of the frame with city or country name in “Yekta tu Khali” Farsi font style as dotted line below the map and in Times Roman font in English on the left side of the card.

Geographical information, statistical and characteristic as game indicators are designed in the lower half of the frame with ‘Thin Khorramshahr’ font as column and centered. In this case attempt is made that the design with ten commands ‘Deterom’. The tenth command consist of good design, design at the lowest possible level. The Fig 2 to Fig 11 is examples of card design and boxes of collection of educational gaming card CARTIN.



Fig 2 American continent implement plan (CARTIN)



Fig 3 American continent box executive design (CARTIN)



Fig 4 Asian continent card design plan (CARTIN)

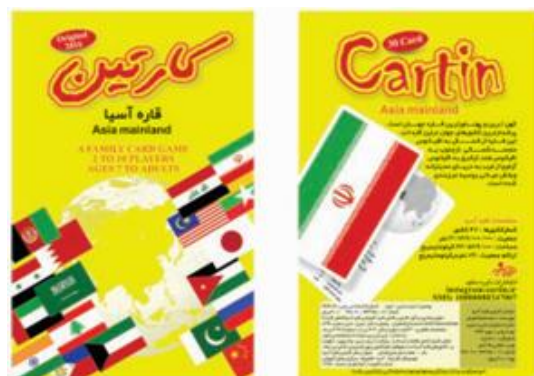


Fig 5 Asian continent box design plan (CARTIN)



Fig 6 European continent card design plan (CARTIN)



Fig 7 European continent box design plan (CARTIN)



Fig 8 Asian continent card design plan (CARTIN)



Fig 9 Asian continent box design plan (CARTIN)

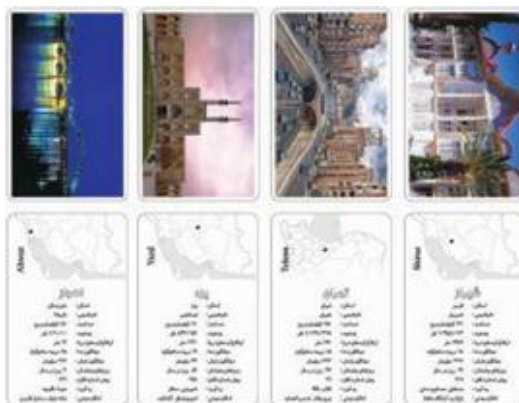


Fig 10 Iran cities card design plan (CARTIN)



Fig 11 Iran cities box design plan (CARTIN)



## 5. Discussion

### 5.1. Good Product Design Features

Educational gaming card have been used in recent decades. In Iran, there have been very few examples; among these cards are the playing cards sciences friendly from the science education publisher, visual educational gaming card (flash card) from the educational publisher and flash card from Gaj publisher. Based on field research, the present products in Iran market have disadvantages as expressed in weak points of the educational gaming card in Iran;

- Lack of brand and logotype use for the products
- Lack of use of interesting and entertaining topics
- Non-standard and large cards and packaging
- Failure in obeying the principles of game and concise content
- Not using energetic, playful and lively colors
- Not taking advantage of comprehensive visual identity among products with diverse subjects
- Not using printing and good material consumption
- Ignoring the details of product production

Diter Rams, has been the most influential designer of the present century, he has expressed design rules that are taught in all school of design. Since the quality of the design is not measurable accurately, he answers the questions of the rule as follows, whether my design is good? The Rams Golden Rules which known as The Ten commandment of Rams presented for designing the educational gaming card are:

Ten Commandments of Rams

1. Good design is creativity
2. Good design is efficient
3. Good design is beauty
4. Good design is perceptual
5. Good design is simple
6. Good design does not lie
7. Good design is everlasting
8. Good design is a set of integrated details
9. Good design is eco-friendly
10. Good design is design to the lowest possible limits

### 5.2. Graphic Corresponding to Educational Gaming Card

Nowadays, the graphic designer need to have proficient in principles and skills in creating adjectives such as attracting attention, continuous attention till message transmission, and participation of colors in the influence of the message and how to use the color in form, image and typeface. The most important secret of graphic art is to create harmony and balance between different factors of design in the direction to convey the content. The base of any graphic work and convey of idea is clearly relevant to associated audience. The designer must have full control over the aim of graphic work and its secret psychological message (Eisman, 2016: 7).

In all forms and nonverbal communication, color is one of the fastest ways to convey messages and meaning. To measure the effect of color, market is the best place. Market is where color plays the fundamental role in communication that is positive, attractive and its use for product is

inevitable. Often, color is referred to as a 'silent vendor' that should attract the customers at the first glance and convey the message about what the product is in which field and help to sell the product (Eismen, 2016: 10).

In designing the overall structure of card game, depending on the age group of the audience, should use warm, cheerful, lively and joyful colors; and if cool colors are used for the products it should be clear and bright. So that the contrast between the colors and easily observed. The warm, energetic and lively color communication with respect to type of product and age group of the audience are the best selection choice.

Today, packaging is designed in a way other than keeping and maintenance of the products also helps for maximum and quick sell, to an extent that it replaced the seller and with forms, roles, suitable colors and mentioning the necessary information about the goods on it answers the question of the purchaser (Afsharmohajer, 2015: 338). Packaging is the identification of a new product and its identity in the market. An identity that is permanent for many years and rarely changes takes place, because of its long life, coloring, packing geometry, design, product mark, product name and other factors that forms the packaging (Katoziyan, 1999: 7). In a shopping center or store, in the first place these packages are ones that talk and motivates the purchaser to buy the new product. More than anything, the quality and visual impact of packaging are of importance. Obviously, if the quality of the product is bad, but with attractive and impressive packaging, only the buyer is bullied and after that it is dissuades by the buyer to buy the product (Afsarmohajer, 2015: 339). In products like educational gaming card who's audience are the children, effective packaging plays an important role in deceiving the audience and if the quality of the product is not acceptable in terms of the content, it affects more than once, unlike other products that the purchaser does not repeatedly gets deceive of the packaging. Therefore, aesthetic and attraction has greater influence on the sale and success of the goods. This issue includes three parts as follows; appearance shape or geometry of packing, the graphic design, and materials used.

One of the important factors in designing a particular identity or a common uniform used by the designers is the logotype. Logotype is a special name for product or company. In most products, logo is the first thing observed by the audience. The appropriate logotype for educational gaming card with regard to the age, location and environmental culture of the audience should be designed in a simple and legible manner. The title of packaging or logotype of a product is not alone judged by the viewer, but rather in the composition or surrounding space and the whole packaging shows its visual effect. The brand name of product is an important factor in its success and consequently shape that expresses this name has special importance. In the formation of brand product, the brand name of a product, how it is designed, color composition and how it is located in packaging is very effective.

A very important component of a brand or company image is its identity. In most cases, designing an organization identity takes place as a set of specific rules, with a focus on the visual elements used by the company. Usually, these special rules determine how to use the specified color palette, fonts, layouts, indices, etc. These rules maintain the coherence of the organization identity, so that brand recognizable and identified. The considered products attention has been given to this issue in the beginning of the design.

An important factor in determining the discontinuity of the gaming card is not wasting the printed form. That is, after printing there should be about half centimeter on each side to be cut. As a result, in each country, the size of the printed works is directly related to paper in the country. Another factor is the type of application of the work, the purpose and audience that is the cards

should be in such a way that the audience with small hand can simultaneously hold several cards in his/her hand and big or small size cards should be the reason of releasing the card from the hand.

Other than this two main factors for the discontinuation of the card, should mention to ISO 5 standards in A, B and C group. Most countries and all western countries use standard and desktop printers, scanners, Xerox and Fax machines are related. According to the materials stated, the appropriate cut for educational gaming card is 5.7 by 9 cm. The type of cardboard is 250 grams of glossy with UV covering. UV is the formation and stabilizing agent of color that dries with ultraviolet radiation, other than maintaining and long-lasting the color on the cardboard, it also gives polish and shine. Other than cardboard, another type of plastic and polymer is suitable for gaming cards, which has been known as PVC cards. The price of the raw materials as well as printing on PVC is not economical and the final price of the product is expensive. It is concluded that due to the purchasing power of the audience, the use of this material in producing educational gaming card has been excluded in Iran.

Graphic values with form, color and image, powerful and impressive designs, special methods for executing the image, illustration with new and creative techniques, new look at the line, level and volume according to the issue of gaming cards can achieve a successful and effective product. The feelings of designer creativity are important on choosing the appropriate method for the subject. Access to new and creative spaces is a factor to attract the audience; this method can also be used in illustration of design or image in gaming card associated to the subject of gaming card. Technically, the image should be in CMYK and 300 dpi resolution refinement of the color and then used for the design.

The small font letter description on the packaging should be legible will less row distance. In products where the subject is modern, it is better to have font style to be modernism; otherwise one of the usual thin font that is used in journals text. The information on the package in terms of words, arrangement, size and typeface should be presented to the audience in a way that instead of feeling of advertisement should induce the feeling of conveying information (Afsharmahajer, 2015: 397). In relation to the type and size letter font of cards, it is better to use the combination of fancy letters and modernism with thin letter size between 11 and 14 points depending on the age of the audience with large line spacing to be in proportion with the card size. Because of the difference in the grams of the cartoon (or package) and cards, different sizes and type of layout on the plate should use GTO printing machine and two leaf. The print size of GTO device is 35 by 50 cm and two-leaf device is 50 by 70 cm. Noticeable thing in producing gaming card is the way in which the cards are cut. Nowadays, due to the low cutting price by leather press, most of the products are cut in this way, but the biggest error of this machine is leaving behind cards with flat sides and without projection around the work, which is seen smaller and less in the Dickat Bobst machine, resulting in cards with flat sides and without projection which does not annoy the player hand while playing.

The graphic designer attention to these strategies in designing new game cards results in making the appearance of product much better. Creating visual diversity in the appearance of goods leads us to de-familiarization. The term was first developed by Victor Shklovskij in the article 'Art as a skill' and in the philosophy of formalism. At first, was related to distinguishing poetry verbally based on the awareness to form in literature (Crawford, 1984: 209). Later Jakobson and Titanof called it as alienation (Ahmadi, 2014: 47). Shklovskij expresses the purpose of art as the transfer of feelings through the unfamiliarity of objects, increasing difficulty and length of perception (Shklovskij, 1998: 16). Jakobson believes that defamiliarization has become a habit overtime and requires familiarization (Amoozadeh Lichaei and Saffari, 2015: 440). It is necessary to state that success in designing is examined according to the welcoming by the audience (Saffari et al., 2016:



15-18). Therefore, in cards, use of past forms that was previously considered as innovation is now repeated and a newer phenomenon has to be created to change the habits and audience to show more attention to the network. This makes it easier to percept it content. Attention to the content and audience is the design requirements that should be considered in their selection.

## 6. Conclusion

Game is a tool that children and teenager can be familiarized about the real world rules. The gaming card is one of the examples that because of the popularity among the audience in the community can regain its popularity. Attention to the structural and visual effects in designing gaming cards can play a major role in attracting audience and a serious rival for computer-based games. Attention to the value of graphic design in educational gaming cards, because the product appealing to the audience and growth of the sales-index. This accelerates the transfer of data with the traditional game in a modern way. Therefore, in packaging in relation to the age group, it is necessary to use warm, cheerful, lively and joyful colors. In fact, the combination of warm, energetic and happy is proportional with these products. The beauty and attractiveness of the package, is effective in its appearance or geometry, graphic design, and material used in selling the goods. The legibility and simplicity of the logotype, color and way it is placed in packaging is important. It is also necessary to design the organizational identity and to comply with all the products. The appropriate cut for the educational gaming card is 9 by 5.7 cm and its material is the 250 grams glossy card with UV covering. In the implementation of the image, the illustration with new and creative technique, new look at the line, surface and volume is effective in relation to the subject of the gaming cards. The combination of fancy letters and modern as thin font size 11 to 14 points and line spacing relatively large in proportion to the size of the cards. In printing, the type of packaging layout and cards on plate; a GTO printing device and two-leaf device must be used. The binding and way of cutting the cards must be with flat sides and without projection which does not hurt the player hand while playing.

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