The role of graphic design in the COVID-19 global outbreak

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Abstract
Many studies have been performed in the field of graphic design to prevent and monitor the coronavirus disease global outbreak, which emerged in Wuhan City, China, and has been announced as a pandemic by the World Health Organisation. Graphic Design has always taken a stand towards positive thinking by enhancing creative reactions to the challenging conditions (conditions in which there is no physical human connection, movement is restricted, concerns increase, etc.) that human beings have faced up so far and has supported the idea of the world that is trying to heal. The aim of this study is to examine the communication power that graphic design has created during the pandemic process by inspecting the current works of a common language which has been put forward as a graphic language in order to be united in the name of graphic design, both in the information charts of the coronavirus in the name of graphic design and in this troubled process of the world. In this study, the reaction, contribution and support, which have been developed by Graphic design for the COVID-19 pandemic process, were examined and samples were presented from designers by examining illustrations, posters, infographics, graphic products and so on, which have been made around the world. In addition to this, creative problem solutions and the role of graphic design have also been explored for solving these problems.

Keywords: Graphic design, COVID-19, coronavirus, outbreak, epidemic.

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1. Introduction

Coronavirus disease (COVID-19) is an infectious disease caused by the recently emerged coronavirus. ‘CO’ and ‘VI’ originating from coronavirus, the letter ‘D’ from the word ‘disease’ and ‘19’ from the year 2019 in which the cases began to appear (Evren & Us, 2020). Corona means ‘crown’. The name of the virus comes from its crown-like spines/outgrowths. When entered into the body, these thorns act as a key and the virus begins to spread throughout the body.

COVID-19 is a disease caused by a new coronavirus and was first detected in Wuhan, China, in December 2019. The disease is highly contagious, and its main clinical symptoms are fever, dry cough, fatigue, muscle pain and difficulty in breathing. Since the first reported case of COVID-19 in Wuhan, China, at the end of 2019, COVID-19 has rapidly spread to all parts of China and then to all countries of the world (Lai et al., 2020). In our country (Cyprus), it was officially seen for the first time on 11 March 2020, and the number of cases has increased rapidly since the first coronavirus case was detected (Sancak & Col, 2020).

It is known that this disease, which is also known as the ‘New Global Threat’ and affects the world in many fields such as political, social, economic and especially health, is transmitted from person to person and the severity of the disease is related to individuals with chronic diseases (hypertension, diabetes, etc.) and age (Alsarayreh, 2020). Humanity has encountered many viruses from the past to the present day. Variola (Smallpox Virus), Ebola, HIV and severe acute respiratory syndrome are some of them that are known and there are millions of viruses in nature that we do not know. COVID-19 is just one of them.

It is known that there are six types of coronavirus that cause illness in humans. Four of these (229E, OC43, NL63 and HKU1) are common and typically cause common cold symptoms in individuals with efficient immune systems. The other two types are severe acute respiratory syndrome coronavirus (SARS-CoV) and the Middle East respiratory syndrome. Coronaviruses are likely to periodically occur in humans (Zhu et al., 2020). With the New Coronavirus SARS-CoV-2 (COVID-19), the newest member of this family, we are now witnessing the 7th type of the virus.

Considering the extent reached by today’s technology, it is seen that people from multiple professional groups in the world are attempting and developing quite a few methods to combat COVID-19 and prevent its spread. For example, an artificial intelligence-supported application developed by MIT for the detection of Covid-19 disease, a test development in which corona test is performed from cough¹ or an Artificial Intelligence-based COVID-19 Sound Detector which is a similar application that can detect COVID-19 by analysing the user’s voice developed by researchers from Carnegie Mellon University (Zhu et al., 2020). The application verifies whether the virus is transmitted to a user’s lungs by taking the user’s breathing habits and some other parameters².

With the COVID-19 pandemic, the world has once again questioned how prepared it is against these deadly viruses. For this global epidemic, which drags the world to a new order and has shocking effects in many contexts on behalf of countries, and for the epidemics that may occur later, public health should be funded and awareness in people should be raised. Numerous occupational groups have different roles in this awareness raising. The role of graphic designers who contribute to realising the most effective aspect of communication is undeniable as in many other issues around us.

2. Methodology

This research consists of three parts. In the first part, what COVID-19 is in general, how it emerged and its family are mentioned. It was also mentioned that professional groups have important roles in defeating this epidemic. In the second part, the design aspect of social interaction is mentioned and the designs reflecting the mood of people, the ideas of acting together and a healing world are included. While doing this, the effect of the media on this process was mentioned; examples of the use of graphic products such as infographics, posters and illustrations for antivirus purposes are given.
In the third and last part, the creative solutions to the problems in the pandemic process are exemplified using the poster designs of the Looma Agency and the study is concluded.

2.1. The purpose and the problem of research

The purpose of this study is ‘to examine the role/effect of Graphic Design in reducing anxiety during the COVID-19 pandemic period’ and in drawing attention to the process experienced as a result of this demonstration, ‘showing how graphic design guides the world, how the idea of the world that recovers/will recover is reflected/tried to be given to humanity and how it is represented with examples’ constitute the main problem of the research.

2.2. Method

In this study, the Qualitative Research Method, which is one of the research methods aiming to examine the researched subject in-depth, was used to obtain information. The scanning model was used as the research model. In the samples given in the study, the samples that were scanned for the subject and thought to be suitable for the content were selected by random sampling.

2.3. Data collection tools

In the research, a ‘document review tool’ which includes the analysis of written materials that contain information about the facts and phenomena aimed to be researched was used as the Data Collection Tool. Personal documents, designs, print media, periodical written sources, virtual environment, scientific journals and books, and exhibitions are the data collection tools that are used.

2.4. Analysis of data

A comprehensive literature review was made in the research area, and the content was created by analysing the data obtained from current studies.

3. Findings

3.1. Design aspect of social interaction

Graphic design is highly significant in terms of announcing the researches, studies and measures taken and to be taken for the prevention of the COVID-19 epidemic, which has negative effects on the welfare of people, and at the same time preventing the worries and concerns, hopelessness, loneliness, information confusion, negative feelings and thoughts that occur/may occur in the society.

In addition to these, Graphic Design is thought to be one of the most effective channels to meet the need for a healthy and understandable communication at the international level in order to be able to unite/act together as the world, how to deal with all these negative emotions, how to protect humanity from the virus, warnings and calls in need of attention. In addition, in the fight against a virus whose solution is not yet known, each individual knowing his/her own responsibility, sharing the information obtained from the right channels and cooperating in a global context are seen as the best ways to bring a solution. Of course, the most effective method of defeating a virus is to gain immunity. However, when this is not yet possible in the right sense, every individual, society and professional should know and fulfil their responsibilities in order to provide the necessary measures, even at the minimum level.

For COVID-19, humanity has developed methods of self-protection and defence, both spiritually and physically, against the threat of spreading. It is known that many societies in the world have had to experience a quarantine process in which the movement is restricted, there is no physical human
connection, excessive weight gain and anxiety increase as a result of staying at home for a long time, and various health problems are experienced. In this process, designers have worked against the pandemic crisis to help keep people positive and make their situation tolerable by illustrating people’s home situations and moods in a fun way, as in Figure 1.

![Figure 1. ATASOY, S.N. ‘What Unites Us’, Illustration for ‘27 April World Design Day’, 2020.](https://whatunitesusonline.wixsite.com/wuuo/works?pgid=k92vki6t-ed3b6bde-550f-4cdf-be1a-95e0c4bde9d7)

Graphic designers have also tried to fulfil their duties to convey messages such as ‘stay at home’, ‘life fits home’ to the whole world in the most positive way possible and to be a part of the solution by developing creative responses to meet the new needs and expectations.

![Figure 2.](https://www.instagram.com/p/B-Wtf_GgQOF/)

It has been observed that this process has positive aspects as well as numerous negative consequences. People locked in their homes have not remained unresponsive to the process, but they have tried to maintain their communication and stay positive together using their knowledge,
experiences, thoughts on the subject and sometimes their skills, through social media in order to improve the world in the struggle with health. In addition, a decrease in environmental pollution with a world consuming less on quarantine days, creatures in nature seen on the streets/avenues people have left, family ties strengthening (see Figure 2), all countries of the world helping each other, the time that the person should devote to himself/herself (reading, doing research, etc.) is being more efficient and so on have taken their place among the positive reasons that will trigger awareness.

3.2. Coping with negative emotions

In the COVID-19 pandemic, it can be said that the quarantine days had positive effects on the thinking and production processes of graphic designers. It is known that quite a few individuals who cannot adapt to the process psychologically, biologically, sociologically and economically cannot fulfil their responsibilities towards their families, and especially healthcare professionals experience anxiety and psychological depressions due to the feeling of being stuck with the increase in the intense work tempo and deaths. Other occupational groups who wanted to support them in this situation sometimes applauded on their balconies at a certain time to support them and sometimes they made them aware that they are with them through social media in order to make them feel important and valuable in line with their competencies. Just as many people who are locked up in their homes, designers have productively used the quarantine days and supported with their own point of view to give a common message to the whole world – acting together (see Figure 3).

Figure 3. https://whatunitesusonline.wixsite.com/wuuo/works?pgid=k92vki6t-c6858e84-5da6-413e-96e6-4a84a31ff141 Date Accessed: 21.08.2020

In order to turn a negative situation into a positive one, using their observational skills and even adding a little humorous perspective to this situation, the designers transform the current negative situation into a positive one, reflecting in their designs how people can be happy even in such situations by not giving up living, sharing, being together and looking after each other. This situation has increased like a successive wave of kindness with solidarity through social media. This can be called a kind of ‘unifying effect of design’. The situation depicted in Figure 4 can be shown as an example. It is just as illustrating the positive sharing of two people sharing their coffee across their windows despite the negative situation they are in. Or, just as the illustration in Figure 5, which reflects the methods of spending time at homes and balconies of people living in the same apartment, forming a popular wave in the world, supporting each other with music and staying in solidarity.
Of course, besides these hopeful designs, the designers also tried to show that individuals can understand each other by reflecting in their designs numerous problems such as the anxiety experienced by the individuals (see Figure 6), their psychosocial and mental health conditions, their profiles during the quarantine and isolation days (see Figure 7), and individual and social problems related to stigmatisation.
COVID-19 has also had economic reflections on countries globally. Although this has not yet turned into a shocking effect, the measures to be taken for risk and crisis management, both individually and socially, must be determined and implemented as soon as possible. Designers support this situation with various infographics, helping individuals to develop marketing methods on social media, to make the economic recession a more understandable picture for the society and to produce creative solutions for future planning.

### 3.3. Media influence

Oral, written and electronic culture media determine the production–consumption styles of the culture. While memory-based dynamic recording and transfer systems are used in oral culture medium, cultural texts in a written medium are transformed into static structures. Electronic culture medium expands the communication network of culture and adds auditory and visual dimensions to this network. In addition, the concept of time and space alters in this medium. The widespread use of computers, smartphones and other mobile devices has led to the emergence of a new environment of interaction with the use of the internet. Members of this environment generate the network society. A virtual culture has developed with the increase in the use of social media channels such as Facebook, Twitter, Instagram and YouTube in the new cultural environment generated through social networks. These social media channels, which allow the members of the network society to interact quickly, ensure the transformation and consumption of traditional cultural elements (Avci, 2020).

Individuals locked in their homes in this fast-paced consumption have been subjected to an intense information overload within this virtual culture and they have been confronted with quite a few inaccurate data that can cause panic or simplify this situation. Social media has a significant potential of providing access to information in a short time and graphic design is one of the most active disciplines of this potential. Here, designers convey the messages, rules and measures they feel responsible for providing accurate information by transforming them into figures. However, as well as the importance of the accuracy of the information, the importance of its transfer and the effect it will have should not be overlooked.

The widespread implementation of communication through the media in this process also has a significant effect on guiding the majority of the society. The transfer of information by including visual elements allows individuals to focus their attention on a desired subject. These elements can highlight the fact that political leaders ignore the current danger at the onset of the COVID-19 pandemic, as shown in Figure 8, as well as contributing to raising awareness regarding the commitment and dedication of healthcare professionals who are exposed to this situation and forgo many things, including their families (see Figure 9).
When media and graphic design are combined at the right point, it is observed that they successfully take on their responsibilities for individuals to live healthily and consciously, to ensure the efficient and understandable dissemination of information towards people and that, ideally, they convey to the people numerous positive elements such as humanity's hopes for the future, the situations in which they should be prepared, the measures they need to take and the significance of acting together.

3.4. Samples of uses of graphic products for antivirus purposes

COVID-19 infection belonging to the coronavirus family has emerged as the first pandemic of the century we are in (Genc & Aytur, 2020). There is no known treatment the effectiveness of which has been shown with reliable study results for COVID-19, which is the agent of SARS-CoV-2. There is currently a great race around the world to seek a cure that will help control the pandemic (Yoruk & Memikoglu, 2020). Establishing physical distance between people and washing hands are the most important protection methods since the disease is transmitted from person to person by droplets and by hands from objects contaminated with an infectious agent, by contact with the mouth, nose and eyes. The following significant measures needed to be taken: rapid detection, isolation and treatment of patients; finding the source and the contacts and taking the necessary precautions; bringing up practices that will preserve social distance in society; restraining travels, public transport and
meetings; and closing workplaces. In addition, communicating effectively with the public, identifying risky groups and analysing factors that block communication are needed to be done in this process (Col & Gunes, 2020).

Graphic Design is seen and used as an effective communication tool during the pandemic process. In this process, one of the most significant graphic products created to guide people and raise awareness are infographics that support and narrate information with illustration, photography, etc. Infographics are special forms of visualisation that combine words and images to convey a specific message and can be used to achieve several goals. For instance, to inform, convince, educate or motivate people. However, in order for something to be qualified as an infographic, by definition, it must provide information (Few, 2011). Infographics, frequently used in health, education, economics, natural sciences, publications, websites, newspapers and many other places to describe a plot are powerful communication providers that help make any event pattern more understandable and include short texts, graphics, drawings instead of long texts. They visually support the information in the data stack and help make it perceivable.

The iconic London Underground Map designed by Harry Beck for the London Underground and Washington D.C. Metro Network Map designed by Lance Wyman & Bill Cannan two of the most common examples of this. David Macaulay’s book ‘The Way Things Work’, which consists of infographics, can also be shown among the well-known examples in the field of infographic. It is known that infographics allow data to be understood more practically and quickly and at the same time they enable the data to be permanent. These substantial graphic products, which are used especially for public health warnings and messages during the pandemic period (see Figure 10), generally present the information in a sequence that the viewers should follow, as in Figure 11.

![Figure 10.](https://tr.pinterest.com/pin/316448311321475771/) Date Accessed: 18 August 2020
The world has taken on a distinctive structure during the pandemic and this process points to a new world order in which a series of measures should continue. Effective and reliable communication should be practised, and the correct message should be given for the correct fulfilment of the requirements of overcoming this crisis period that threatens and negatively affects people’s possessions and for the welfare to be established again. The factors to be considered in this matter (see Figures 12-14), intervention plans, recommendations (see Figure 15), precautions to be taken after a crisis in the case of recurrence of the virus with different versions, conclusions/lessons made from the situation and even important questions to be asked and questioned (see Figure 13) come to life again through graphic design.
Pandemic communication is an information and education centred communication type that determines the communication priorities of the society according to the epidemic, aims to interact with all sharers at the right time, in the right channels, faster than the epidemic, by classifying existing and potential information sources and their target audiences, incorporating all elements of interpersonal, intercultural and mass communication and requires empathy, care, trust and competence (Ozpınar & Aydin, 2020). Graphic Design also aims to reach individuals using the most...
accurate product (poster, illustration, infographic, etc.) to visualise information for this type of communication and it is seen as an important main factor called upon in controlling the process in many ways.

3.5. Creative problem solutions during pandemic process

In retrospect, pandemics have come across many times in different types such as plague, smallpox, influenza and swine flu. Correspondence and communication have been provided through different communication channels from past to present against all these diseases. These communication styles have evolved over time and in the technology age we are in, they have transformed into interactive digital media systems called new media. Graphic design has continued its development and has adapted itself to the digital age by transforming into a platform consisting of animated posters as well as traditional products, interactive designs, virtual and augmented reality, and even blended reality supported graphic products.

‘Graphic design today is a much more complex field than it was in the 1950s when design education programs became popular. At that time, education programs focused on formal features such as draft and typography instead of semantic problems about communication with the target audience’ (Margolin, 2012, p. 1).

It is expected that social media, which seizes a large part of the time, contains qualified, well-designed content, and supports the prevention of the crisis with creative problem solutions in the fight against the virus with the rapid development of new media, which changes the way people receive news and communicate in the digital world. Considering its domain, it should not be overlooked that misdirection or information pollution can be as dangerous as the virus itself. For this reason, the message should be given to the recipient in the most practical and simple way, and at the same time in a remarkable and impressive way.

In the Figures from 16 to 23, within the scope of the ‘Art of Quarantine’ campaign published by Ukraine-based Looma Advertising Agency with the support of the Ministry of Culture and Information Security of Ukraine, the simple rules that many people in fact ignore during the pandemic were referred in an impressive and creative way with posters made on classical artworks – just as the postmodern attitude that Marcel Duchamp had previously exhibited in Davinci’s Mona Lisa.

Figure 16. https://looma.pro/portfolio/art-of-quarantine/ Date Accessed: 18 August 2020

Figure 17. https://looma.pro/portfolio/art-of-quarantine/ Date Accessed: 18 August 2020

Figure 18. https://looma.pro/portfolio/art-of-quarantine/ Date Accessed: 18 August 2020

Figure 19. https://looma.pro/portfolio/art-of-quarantine/ Date Accessed: 18 August 2020
As part of the campaign, designers aim to stop the spread of COVID-19 around the world with widely recognised classical artworks – such as ‘Raphael, Portrait of a Young Man – Leonardo Da Vinci, The Last Supper – Leonardo Da Vinci, The Armenian Woman – Benjamin West, Miss Wordell – Michelangelo, The Creation of Adam – Rene Magritte, Son of a Man – Frederick Leighton, Orpheus and Euridyke – like Giovani Battista Salvi, The Praying Madonna, to stay safe and to share it with as many people as possible through social media.

Figure 20. https://looma.pro/portfolio/art-of-quarantine/ Date Accessed: 18 August 2020

Figure 21. https://looma.pro/portfolio/art-of-quarantine/ Date Accessed: 18 August 2020

Figure 22. https://looma.pro/portfolio/art-of-quarantine/ Date Accessed: 18 August 2020
The messages given are as follows in the order of ‘Figure’ shared; wash hands – maintain social distance – stock up – pay by card – disinfect hands – wear a mask – keep distance – wear gloves.

As can be seen from the posters, the role of Graphic Design in the pandemic process is undeniably impressive by conveying the message supported by striking ideas for the solution of the problem and it conveys the message to individuals correctly. This research emphasises the significance of visual communication tools that can direct people’s feelings, thoughts, and ideas such as anxiety and loneliness in times of crisis. As a matter of fact, when older examples are examined, it can be seen how effective graphic products related to propaganda and war are in guidance due to the World Wars.

The most known example of this is the ‘I Want You For U. S. Army’ poster in Figure 24, which denotes Uncle Sam’s – a symbolic character – call to enlist for the US army in World War I. Another example that serves the same purpose is the poster named; Gee ... I wish I were a Man, I’d join the Navy; in Figure 25, which shows a young woman in a navy uniform designed by artist and illustrator Howard Chandler Christy (Atasoy, 2018).
4. Discussion

In this study, it is seen that in the current period, Graphic Design is used as an effective communication tool which is able to direct the consumption habits of the society and important issues on the world agenda, bring people together on any subject and sometimes deliberately orient them and sometimes only reflect the feelings/stance of the designer on the subject (Seree et al., 2021).

At the same time, the banners, illustrations, infographics and so on are important graphic products that make the information and message more understandable and effective; make impacts such as motivating people in times of crisis with positive studies, make them believe the temporality of the situation and convincing them that they can overcome many things if they are in solidarity; and may emphasise the importance of the current situation or that the result may change within the given message despite the importance (Simbarashe & Zirima, 2020).

It is seen that all this communication structure, with the contribution, development and widespread use of technology, makes many negative situations tolerable and manageable. It has been observed that the COVID-19 virus, which affects the whole world, has sociological, economic and psychological effects on all layers of society. In addition to all these studies, it has been determined that the COVID-19 pandemic has important effects on the visual communication sector.

A new world order has been started, where the majority of communication is now exercised through digital channels and where graphic designers, illustrators and UI-UX designers are demanded even more (Alsarayreh, 2020). It is foreseen that this transformation and the change of existing patterns will be continued after the epidemic – for example, the needs of some industries starting to run their businesses online – in order to be cautious about the future. This situation affected the social, educational, and business lives of the individuals and it has led to the significance of digitalisation outside the usual course and the competitive power that comes with it by supporting it with qualified and remarkable graphic products in the digital world (Ulgener et al., 2020).

In this study, the design aspect of social interaction in the isolation process is mentioned and various examples are included to verify whether graphic design contributes to minimising the effects of the pandemic.
Within the course of the epidemic, concepts such as disinfection, social distance, mask, isolation and quarantine are embedded in the lives of individuals and it has significantly changed the way societies live (Genc & Uslu, 2020; Navarro et al., 2021). The designer accordingly conveys the necessity and sensitivity of measures needed to be taken to the whole world with the technique he/she finds effective and is competent and contributed to minimising the spread with graphic materials.

5. Conclusion

While the world is fighting COVID-19, graphic designers have not remained indifferent to the process and conveyed how to take measures as quickly as possible, what the effects of the epidemic could be and at the same time, they were able to convey social, economic and political agenda to the people by softening it even more, as presented by the Looma Advertising Agency under the title of ‘Quarantine Art’ as well as with the scientific infographic. In this way, using a humorous expression, they undertook the task of stopping the spread of COVID-19 all over the world and explaining that the idea of acting together could be the most effective solution to the situation. The successful effects of the universal language of Graphic Design have been revealed in this way.

It is obvious that the role that design assigned to itself reveals feelings and results about human. The importance of the problems that are overlooked and ignored for some reason, forgotten values and investments in the field of health, education and public sphere against the prevention of viruses that humanity is unprepared and the process of preparedness for the moment of danger is once again underlined and even documented by graphic products.

In the quarantine process, it has been observed that numerous design works have been produced that can help the world think positively and how to get through the process with inspiring designs. This situation not only helps to motivate individuals to manage the crisis in the processes where social media is used most effectively but also shows that graphic designers will have a lot to do in the future than today. It is concluded that Graphic Design plays an important role in the prevention, control and response of most diseases by generating creative problem solutions, and therefore involvement is a task, not a matter of choice.

References


