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EDUCATION AND ITS CHALLENGES IN POST COVID TIME

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Abstract: *Globalisation, has been challenged in the last two years by the emergence of the Corona virus. In particular, the events of the last two years have had a tremendous impact on the educational process throughout the world, as the learning process has taken a completely new turn; the young people, who have been deprived of much unconcern, have lost the most in terms of educational processes. Despite these facts, with a lot of effort, it has been possible to maintain the high level of education and knowledge transfer with the help of modern technologies (online learning). Even more, successful practises and thus real-time networking and education have been achieved.*

One of the results of the above work is also the bilateral cooperation between the Republic of Slovenia (University of Ljubljana) and the US state of Kansas (Wichita State University), which started in October 2021 and ended in January 2022. We created a project that involves students from both continents and gives them the opportunity to learn about cultural and linguistic differences. Multilingual communication is something to strive for, especially in the post-covid times. Slovenian students learned about US states and tried to represent them graphically in an appropriate way by imitating the design of letters or inscriptions. Following the same principle, Kansas students were also involved in the project, with the difference that they were able to collect and learn data about different European countries. The result of the bilateral cooperation was a world map that represents the state or country as the students see and perceive it. In designing the map, the students considered historical, sociological, and cultural aspects specific to a region. This laid the foundation for further collaboration and created a basis that can help educate and learn about cultural and linguistic differences in the world in the future. The first phase of the project is currently ongoing, but will be expanded in the coming years. The aim of the project is to create a graphic printout of all the countries in the world, displayed in what is called a typography world map. Our aim is to connect educational institutions from all over the world and thus contribute to the acceptance of cultural and linguistic differences.

Keywords: education, graphic design, language, typography, visualisation of information

1. INTRODUCTION

Until recently, it was common for universities around the world to mainly have classes in-person. It was almost unimaginable when, at the beginning of 2020, we suddenly had to interrupt the normal workflow and switch to various online platforms offering remote work. Many institutions adapted to the new situation without any problems, but they also identified some shortcomings for example inappropriate equipment, poor technical knowledge, adaptation of working environments, etc. (Ngo, 2021). The latter have finally settled in retrospect, and now many aspects that we were not aware of are coming to the fore, especially with regard to the social contacts that are important for young people.

After almost two years of mostly remote work, with breaks during which the situation in various parts of the world has improved somewhat, the study commitments could be performed in-person with a great caution. Still, it is hard to say that the occasional in-person meetings have contributed to more engaged work. In general, there was a sense of apathy and uncertainty (among both students and staff) as the media did not provide encouraging information about the improvement of the situation (Torres, Statti & Torres, 2022).

Despite the fact that everything happened very quickly, we found that people are very adaptable and can quickly transition to different situations and function well. An example of this is the use of online platforms for remote work (Kintova et al., 2022). It has been shown that some parts of the course (e.g. a seminar) can often be done even better because the whole group can see the product being commented on via the screen. In in-person discussions (especially with larger groups) often lead to students not being able to follow the comments and reflections (of course only if it is group work and not individual work).

Remote work can be of great help to educational staff when they are participating in training (or another form of work) in foreign institution (Tate & Warschauer, 2022; Suttiwan, 2022). Due to the distance (including the time difference), they cannot fulfil their obligations at the home institution (faculty) in real time. In the latter case, working through online platforms can be an excellent substitute for the study process and all its components expected from the educational institution.

In this way, we also carried out an international cooperation between the Republic of Slovenia (University of Ljubljana) and the US state of Kansas (Wichita State University) in a joint project entitled Typography World Map. Part of the students who participated in the project fulfilled all their obligations in seminars held exclusively by distance learning, while part of the students fulfilled their obligations in face-to-face meetings (Miller, Begović & Baumgartner, 2018; Mackare & Jansone, 2017).

2. METHODS

In the winter semester of the academic year 2021/2022, the slovenian master's students of the Creative Typography course individually developed various typographic solutions, which were linked to sets, presented in the course's seminar and linked in terms of content to the semester project Typography World Map. Thus, in 15 weeks, they were faced with the challenge of creating 10 tasks that helped them to select the appropriate features, shapes, colours to ensure that the results were used correctly in the final (semester) assignment.

As part of the semester assignment, students had to plan and design the letters needed to spell their chosen US state in English. The letters had to have the characteristics of accidental/decorative/display letters (letters with special shapes, for example: hollow, dotted, ornate, shaded, double or multiple strokes, stencilled...). They also had to research the representative features of the chosen state (cultural, historical, social, industrial etc.) and incorporate them into the designed letters. These were used to print the state without the borders that define it.

The students from the School of Art, Design and Creative Industries (Wichita State University, Kansas) with whom the first phase of the Typography World Map project took place, approached the work in a similar way. The difference was that the students from Wichita had to explore European countries.

At the beginning of the semester, the task was presented to the students from both Slovenia and Kansas. In order to make the assignment as objective as possible, the students were not allowed to freely choose the state/country for their assignment. They may have had an easier assignment because they knew a state or country better or other circumstances favoured them. Using lottery method, the students chose a number representing a particular state/country and thus randomly selected the state/country that was the topic of their semester assignment.

As part of the project, Slovenian students randomly selected the following states: *Alabama, Alaska, Arkansas, California, Colorado, Florida, Georgia, Hawaii, Idaho, Kansas, Kentucky, Massachusetts, Minnesota, Missouri, Montana, Nebraska, Nevada, New Mexico, New York, Oklahoma, Oregon, South Carolina, Virginia, Washington, and Wisconsin.*

On the other hand, students from Kansas chose *Armenia, Austria, Belgium, Bulgaria, Croatia, Czechia, Denmark, Estonia, Ireland, Lichtenstein, Lithuania, Luxembourg, Monaco, Russia, Slovakia, Slovenia, Spain, Switzerland, and Turkey.*

In total, 27 of the 50 US states and 19 of the 49 European countries were selected. At this point we must point out that the whole of Europe was included in the project, not just the countries that are members of the European Union. In this way, we had a comparable number of countries on one continent or the other to choose from (50 US states and 49 countries in Europe).

2.1 Research and key components

Students immersed themselves in the research about the chosen state/country of their choice. This enabled them to research the cultural, social, linguistic, natural and other features or real events that are representative of US states and European countries.

Based on the research, the idea of each state/country was condensed into a keyword. *Table 1* shows the list of US states and European countries with their corresponding keywords, which were the main guide in creating the expression. To a greater extent, students relied on typical characteristics that were sufficiently objectively associated with the selected state/country.

Table 1: Keywords to describe states (US) and countries (Europe)

State – keyword	*Alabama – wood, Alaska – cold, Arizona – cactus, Arkansas – diamonds; California – coast; Colorado – landscape; Florida – water; Georgia – Martin Luther King; Hawaii – dispersion; Idaho – potato; Kansas – sunflower; Kentucky – Derby; Maryland – crab; Massachusetts – tea; Minnesota – lakes; Missouri – arc; Montana – tribes; Nebraska – meridian; Nevada – lights; New Mexico – adobe; New York City – chaos; Oklahoma – tornado; Oregon – diversity; South Carolina – golf courses; Virginia – love; Washington – grunge; Wisconsin – cheese.*
Country – keyword	*Armenia – carpets; Austria – form; Belgium – architecture; Bulgaria – Martenitsa; Croatia – landscape; Czechia – label; Denmark – music; Estonia – clothing; Ireland – mythology; Lichtenstein – principality; Lithuania – tradition; Luxembourg – cliffs; Monaco – casinos; Russia – script; Slovakia – folklore; Slovenia – nature; Spain – flamenco; Switzerland – gold; Turkey – patterns.*

2.2 Weekly assignments

In order for the project to produce adequate results, the students had weekly assignments to help them complete the semester assignment. So, they had 10 assignments to complete in 15 weeks. In *Table 2* we see the titles of the weekly tasks and their short descriptions.

Table 2: Weekly assignments and short descriptions

	Weekly assignment	Short description
1	Handwriting	Find the best approximation of your signature based on 20 repetitions. Digitise your signature. The result is a file (e.g., .otf) that you can install on your computer. Prepare an analysis of the data set based on the TypeCooker parameters.
2	Letters around us (Found type)	Compose a state name based on natural forms. Find motifs (in nature, in the urban environment…) that represent the letterforms of the state and compose them. It is not about composing objects and creating a record of the state. The natural shapes should represent the corresponding letters for the composition of the sentence.
3	Consistency in writing	Write down a state/capital. Write the word twenty times, making sure that the letters are as even as possible; that the length (width) of the word does not vary too much, that the letters are evenly connected, that the thickness of each letter varies as little as possible…
4	Representative colours	Identify the colour(s) of the state that best describe or define it. Select the colour(s) and use them to create a (handwritten) character. It is not necessary for the written word to be exact. What is important is the use of the colours and contrasts you create.
5	Modularity	Choose 4 elements to form the letters representing the state (lowercase only, uppercase only or a combination). Each element can be repeated for letters, but make sure that each letter contains at least two elements/modules.
6	Layers	Choose a colour and its variations. Create linear letters by superimposing the chosen colour to get the name of the state. The most important thing in this task is not the correct ratio of the letters or the correctness of the letters. The most important thing is that the overlapping layers make the printed word.
7	Purpose of letters	Find 4 words in different publications/websites that are related to or illustrate the concepts of information, identity, community and function. The words should differ in choice of typeface, font, size, colour, etc. Cut out or print the words and create a sample collage (A5) stating your findings next to each word.
8	Counterform	Draw the counterforms that will make up the name of the state. The counterforms can come from different groups of fonts (serif/sans serif, linear…). Try to coordinate the counterforms as much as possible so that the letters and the state can be derived from them.
9	Functionality and semantics	Research and find examples of typefaces (four for each category, eight in total) that have high functional and semantic value. The examples should be from everyday life and must be related to the state.
10	Combinations	Choose 3 typefaces and combine them accordingly. It is necessary to create a combination. Choose 3 fonts and combine them in an appropriate way. It is necessary to make a combination within a family and a combination between different families. Carry out an analysis and justify why it makes sense to combine certain fonts.

The weekly tasks could effectively contribute to the end result, which was actually the main part of the seminar. The step-by-step construction of the final product is a transparent representation of the production of elements that could be included in the created state/country files at the end of the project.

3. RESULTS

The results for a specific US state or European country are presented below. The typical features that emerged during the research are reflected in the motif selected and the colour used for each state/country.

3.1 United States of America

In the way shown in *Figure 1,* the Slovenian students imagined how they could illustrate and represent the US states. As mentioned earlier, 27 of the 50 US states are currently produced. This explains the empty spaces (white areas appearing where the rest of the states would otherwise be).
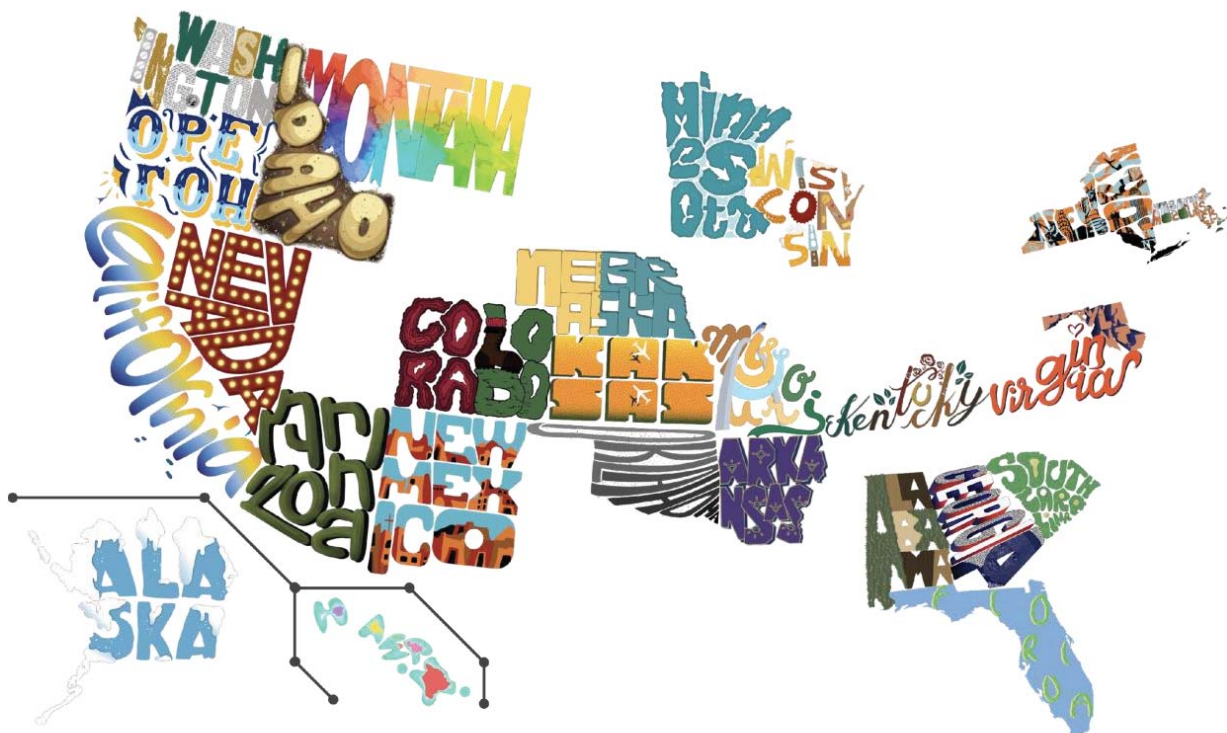

Figure 1: An overview of the US states from the perspective of Slovenian students

As can be seen in *Figure 1,* the US states can be clearly seen in reduced size as they cover a considerable area geographically. It is a little more complicated with the European countries, as they are much smaller. We will highlight the datasets of some US states and show which features are used in them.

The state of Hawaii consists of six main islands (the entire Hawaiian archipelago consists of 137 volcanic islands). For this reason, compiling the state's digital dataset was quite a challenge: how to capture all parts of Hawaii in one comprehensive unit? By creating a digital dataset and being able to represent it, the silhouette of the Hawaiian islands was somewhat simplified. In this way it was possible to cover a large part of the dislocated US state in the dataset. In *Figure 2* we see how the student approached the challenge of creating Hawaii. The key word for this state was dispersion, which is fairly obvious at first glance. Of particular interest is the fact that it was possible to represent the letter 'i' at the end of the word in the form of an interesting ligature, where the basic stroke of the lowercase i runs horizontally and the diacritical marks are arranged to the left and right of the horizontal stroke; all together representing two letters i.

Figure 2: Motif of the US state of Hawaii

Figure 3: Motif of the US state of Massachusetts

The state of Massachusetts has a complex shape, which can be seen in *Figure 3*. The central motif used to create this state's dataset is a historical event called the Boston Tea Party. Motifs related to the events (tea, tea bag, tea cup, tea leaves) were created based on this. Besides the elements that appear, the choice of colours is also suggestive. The colours were chosen so that they can be associated with the culture of tea.

In the following, two states are presented which are not complicated in form, but nevertheless it was necessary to consider carefully which motifs and colours should be used to represent both.

Figure 4 shows the state of Kansas, which is known for its sunflowers and is also the name of the state: The Sunflower State. The rosette patterns in shades of orange, yellow and red represent sunflowers. The city of Wichita, the largest city in the state of Kansas, also holds the title of "Air Capital of the World" because much of the city's industry is based on aviation. The counters in the letters A are replaced by the silhouette of an aircraft. In this way, the Kansas state motif captures what makes it recognisable.
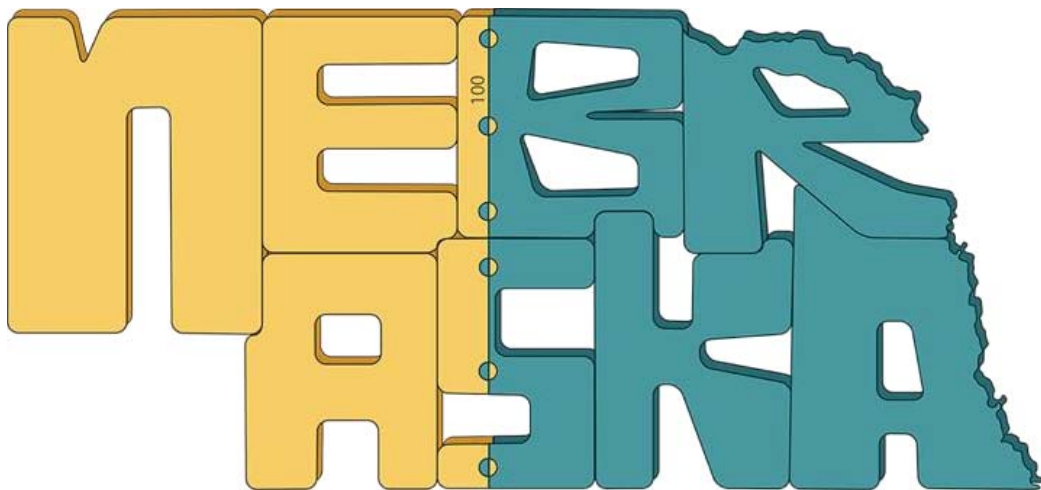
Figure 4: Motif of the US state of Kansas

Figure 5: Motif of the US state of Nebraska

It was was quite a challenge to find motifs that could represent the state of Nebraska *(Figure 5)*. The state itself has no specific characteristics that make it immediately locatable. Nevertheless, thorough research yielded an interesting motif that was eventually used to represent the state. The 100th meridian runs through the state, which was the main idea for creating the motif, and naturally separates the lowland and high mountain regions of the state. During the research, it was also found that the colours that occur at the level of the state and also its individual parts are yellow and green. Thus, the yellow colour, which can be seen on the left side of *Figure 5*, represents the highland part of the state, while the green colour, which can be seen on the right side of *Figure 5*, represents the lowland part.

We have presented 4 cases that were very challenging because of their peculiarities. Nevertheless, we believe that the typical features of each state, as they occur in nature, have been adequately presented. In the next section we present how the students from Kansas researched and analysed the European countries.

3.2 Europe

In the similar fashion as Slovenian students, the students from Kansas also started the project. They chose 19 European countries *(Figure 6).* In contrast to the representation of the US states, some problems arise with the European countries, as the countries are inherently much smaller in land mass, which in turn leads to a lower visibility of the countries with smaller sizes. There is also a lot of empty space in this case, as more than half of the country datasets are still missing.

Figure 6: An overview of European countries from the perspective of Kansas students

Similar to the case of the US states, we will take a closer look at some examples. First, Belgium will be highlighted *(Figure 7).* The main point of reference for this country was its architecture, especially the arches characteristic of Art Nouveau. In the example we can see that the whole set looks quite organic because of the round shapes, and yet flowers have been added to the letters, representing poppies. This is a typical plant that can be found in almost all of Belgium. The shape of the country is quite complex (as with all European countries), but nevertheless the example shows that it was possible to keep the letters (with some simplifications) within the boundaries that make up Belgium.
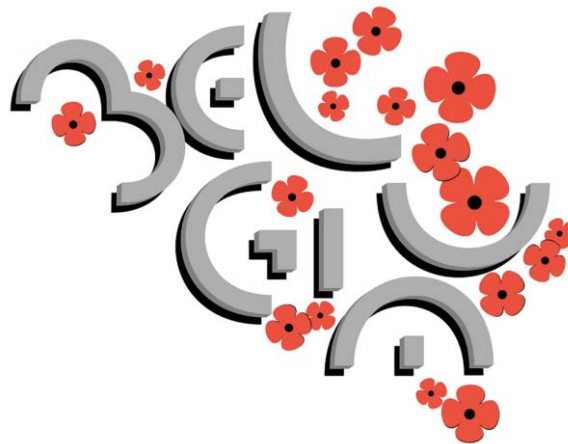

Figure 7: Motif of the European country of Belgium

Figure 8: Motif of the European country Bulgaria

The next interesting example is Bulgaria *(Figure 8)*. An Eastern European country with a rich culture presents quite a challenge when it comes to what is typical of that country. During the research, it turned out that the holiday Martenitsa, which illustrates the transition from the cold winter season to the warmer spring, is a good motif that is recognisable throughout Bulgaria. Characteristic of this holiday are knitted bracelets, usually rolled up in a red and white colour combination. And this was precisely the basis for the founding of the country within its borders.

As we have already mentioned, the complexity of forms in European countries is much greater than in US states. Nevertheless, there are also some countries in Europe that are not so complicated in terms of form. Such examples are the Czechia *(Figure 9)* and Lichtenstein *(Figure 10)*.

The Czechia is famous for its rich history, which includes beer brewing. Many different labels were produced for beer advertising in the past and still today. It was the beer labels that represented the idea of the Czechia. In addition, there is the fact that in most Eastern European countries a socialist-communist regime ruled for a long time, which is also reflected on the processed plate. The colours typical of Slavic countries were an unavoidable element in the colour definition of the country. Added to this is the star, which appears in a counter of the letter e and was an important symbol in many countries of the Eastern Bloc.

Figure 9: Motif of the European country of Czechia

Figure 10: Motif of the European country of Lichtenstein

The Principality of Lichtenstein is one of the smallest countries in Europe. Nevertheless, it has a rich history and natural features that are recorded on the example of the land survey. The shiny elements, clearly give the impression of a princely state. Moreover, the country's landscape is very diverse, which is also reflected in the colours used. The colours blue and red stand for the border between the Alps and the Rhine valley. The letters are very ornate, which can be seen especially at the ends of the strokes. This is further evidence of the nobility that was important to the country in the past and still is today.

4. DISCUSSION

Based on the project, we find that modern online platforms, which we have adopted especially during the pandemic, can be excellent tools that allow working remotely. In particular, they are very welcome when it comes to projects that are considered transcontinental cooperation. Despite the considerable time difference of seven hours, it was possible to coordinate well the activities of the students from Slovenia and Kansas. It is true that this was a great challenge for the course instructors, as the work took place throughout the day, so that both groups of participating students could receive appropriate instructions and guidelines for their work.

From the digital motifs produced by the states/countries, we can see that the task was well posed and that there were no problems in understanding the tasks required of the participating students. The group of students was relatively large, which was known from the beginning of the project, and the aim was to involve as large group of students as possible in the collaboration. In this way it was possible to cover a larger number of states/countries (both in the US and Europe), which provides good starting points for further work.

The features that the students have included in their products show the diversity of the world and the enormous possibilities and potential that each continent or the states/countries that make it up have. It is true that modern culture has exposed us to some states/countries much more than others through the media, but perhaps this is what encouraged the students to research carefully before completing the assignments themselves.

Research work is an essential part of various (graphic) processes and is therefore very important to achieve excellent results. It is also interesting to note that the Slovenian students, whose assignments included the US states, learned about the individual states and realised that there is a great diversity among them.

We note that the Kansas students have also come to new conclusions. It is true that in Europe there is even more differentiation and definition according to the country of origin. The most important insight we have gained is that through their research they have found out some of the specificities of the countries that make up Europe and have effectively integrated them into their projects.

The smallness of the European countries was also something that was sometimes a little more difficult to explain (getting used to the size of the US states certainly has an influence on this). In addition to the small size, the shape of the European countries was also one of the biggest challenges in creating the datasets. The shapes of the European countries are generally different and quite complex. Therefore, when working on the shape of the countries, it was often necessary to simplify them considerably in order to implement them in this way: to create a dataset that has the shape of a country.

5. CONCLUSIONS

During the coronavirus outbreak, transcontinental cooperation faced major challenges. Travel restrictions made it almost impossible to conduct in-person international cooperation and visits, which are the basis for effective collaboration and finding appropriate solutions. Despite the difficulties, people quickly moved to online environments, which, at least to some extent, somewhat alleviated the day-to-day problems and made collaboration possible; with the help of cameras and appropriate programmes, of course.

Based on the relatively long duration of the global/collective online work (from 2020 for almost 2 years), we have found that some practises are successful and need to be maintained for the time when the situation normalises and international cooperation is possible, as we remember before 2020. And just the implementation of the pedagogical process of remote working has shown that this is possible and that it also makes the cooperation a little easier for the mentors.

Comparing the two processes we carried out during the project (i.e., face-to-face and online), it can be seen that both groups of students received clear and adequate instructions on how to carry out the project. The availability of the project mentors was at a high level throughout the collaboration, which was also reflected in the appropriate solutions expected at the end of the project.

We note that the transcontinental cooperation has been successful, which is an additional incentive for all involved to continue it and start new projects. The testing and implementation of the project fills us with great hope to continue the project and build cooperation on a global scale. The outcome of the project is quite challenging, as we want to create a Typography World Map, where each state/country of the world is represented by letters (shapes) and colours that contain the characteristics of that state/country of the world. An important aspect of the project is also that we want to represent the states/countries only with shapes without borders, which can often represent obstacles.

6. ACKNOWLEDGMENT

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