STEM Education for Sustainable Development



Climate Game

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The climate change is one of the most important global environmental problems of our century. We will loose the world if we do not take the essential precautions to prevent the climate change. This way of loss will create uncontrollable results. The proverbs says 'as the twig is bent, so grows the tree' and it means if today's children's knowledge and awareness levels are determined, this determination level will

contribute the solution of global change problem.



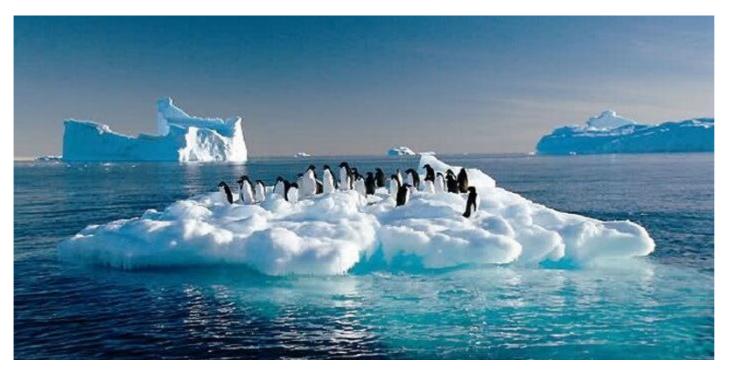
PURPOSE: The purpose of the study, 5 and 6. to determine the views of the class level students on the causes, effects of global climate change and to improve their level of knowledge and awareness on combating climate change and to examine the usability of the games.

INTRODUCTION: A literature search was conducted to search for answers to the questions of the definition of global warming and climate change, its causes and consequences,

and what should be done to prevent it, and the importance of the game in learning, and what should we pay attention to when preparing for the game.

Climate change concept it was not until 1827 that scientists took up the can be taken back. In 1827, Joseph Fourier used the atmosphere to determine the earth's temperature. Emphasizing the importance of the atmosphere and asserting that it plays a greenhouse-like role it has brought about discussions and scientific studies. (Dispensa and Brulle, 2003,

NASA explains climate change mostly by adding heat-trapping gases to Earth's atmosphere. It describes a wide range of global events caused by the burning of fossil fuels. Looking at the studies, climate change is due to the cycle of natural resources and human two views have emerged regarding the reason for this behavior.



PROCEDURE:

p.74 105).

- 1) Method of the research: Scanning method, which is one of the descriptive method models, had been used in this research.
- 2) Sampling: This research is based on the 5th, 6th, 7th, 8th grade students which are still taking education around Center of the Zonguldak.
- 3) Data Collection Tool: As a Data Collection Tool, "The survey of the global climate change" (TSOGCC) had been used in this research.

- 4) Process: According to results of the survey, a board game had been made.
- 4.1) Climate Awareness Board Game
 This game tells us about the definition, reasons and the results
 of the Climate Change.



Game includes; 24 question and 5 bonus cards, 1 game parkour, 4 puzzles which has 6 pieces and clear city pictures middle on it, 4 pawns, 1 dice and another card with game rules are written on it. While designing the game, firstly the question cards has designed and separated on 3 different colours; Blue, green and purple. There are 8 cards for each colour.

Game parkour has been designed on 30 steps as starting line, finishing line and bonus places. There are instructions in some

of the colourful game steps like; "Go 2 steps back." or "Take three more points." There are dirty city pictures on the beginning of the game. The goal is to turn dirty city to a clear one with puzzle pieces according to the instructions.







RESULT: When the results of the survet were examined, it was determined that there was a significant difference in the total score between the last survey and the first survey. In favor of the last survey, after the board game on the green house effect, the causes of global warming and what individuals should do to prevent it. It has been proven that the board game we performed in our study improved global warming climate change awareness. These games can be played by students to increase their awareness of global climate change. These types of games do not only keep children entertained but also are important in developing their awareness of global climate change.