

Environmental Education Through Shocking Photos: An Innovative Way Of Creating Environmental Awareness

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Abstract: This research aims to investigate the impact of shocking photos in educating and creating environmental awareness among Jordanian university students. In particular, this study explores whether using shocking photos about pollution, environmental degradation and global warming can help in educating students about the consequences of their daily behaviors on the natural environment. To achieve this objective, a qualitative approach was used that fits with the exploratory nature of the research; four focus groups sessions were held, each containing ten students from two Jordanian universities. All of which were audio-recorded, transcribed, coded and analyzed using NVIVO 12. The results show that shocking photos can be highly influential in educating students about the impact of their behaviors on the natural environment. Most of the participants noted that these photos were very shocking and horrifying that made them rethink about their daily behaviors and its implications on the environment. Therefore, incorporating shocking photos in introductory environmental courses can be highly beneficial in environmental education and can enhance environmental awareness among university students.

Keywords: Environmental Education, Environmental Awareness, Shocking Photos, Pollution. Global Warming.

Introduction

Environmental challenges including pollution, environmental degradation and global warming have become a profound threat to the survival of the humanity and one of the biggest challenges in the 21st century (Abdellatif and Graham, 2019; Abdellatif, 2021; Abdellatif, 2022). The sustainability of life on Earth is in danger due to the relentless increase in greenhouse gases mainly CO₂ which is leading to dangerous levels of climate change and global warming (Abdellatif and Shahroury, 2022). Additionally, unplanned and unlegislated industrialization along with irresponsible behaviors of both firms and individuals is causing concerning levels of environmental degradation and pollution of air, water and soil (Onder and Yildirim, 2021). Therefore, countries all over the world have taken different measures and procedures to minimize their ecological print and improve their

environmental performance (Al-Qudah, 2018; Alqudah et al., 2020; Almajali, 2021; Abdellatif, 2022). However, these environmental procedures vary widely between countries; it is strongly believed that developed countries are far ahead in managing environmental challenges compared to developing countries because they have stringent environmental laws and regulations and their customers are more environmentally aware (Zou et al., 2015; Abdellatif, 2022). Further, as environmental challenges continued to accumulate, developing countries found themselves in a situation where negative approach towards the natural environment is no longer possible. There has been a noticeable increase of environmental pressures exerted on developing countries to improve their environmental footprint and increase environmental awareness of their population (Zhu et al., 2016; Yang, 2018).

The level of environmental awareness and environmental behaviors varies widely between nations and even among the population of the same nation (Yang et al., 2020). Many factors can shape and affect the level of environmental awareness and environmental behaviors of citizens including; education, personal experiences, attitudes, age, gender, cultural differences, access to environmental structures and others (Vicente-Molina et al., 2013; Piyapong, 2019; Li and Wang, 2021; Rahman et al., 2021; Han et al., 2022). These factors have been examined within many disciplines including; psychology, economics, anthropology and sociology. While, psychologists incline to focus on internal factors such as, education, attitudes and personal experiences while economists incline to focus on external socio-economic factors such as, income, price, and socio-economic characteristics (Clark et al., 2003; Turaga et al., 2010; Meyer, 2016; Diaz et al., 2020; Arral et al., 2022). For instance, citizens who have greater environmental education and knowledge are more aware of environmental problems and more prone to behave in an environmental manner (Oguz et al., 2010; Sarabi et al., 2020). Moreover, citizens who personally encounter any personal consequences related to environmental issues will be more inclined into environmental behavior and will have more potential to engage in environmental initiatives. These consequences might be health-related, financially related or socially related (Kim and Choi, 2005; Frondel et al., 2017; Caniels et al., 2021).

Cultivating citizens' environmental awareness and knowledge must be a nationwide target. Educating citizens about environmental problems, consequences of daily behaviors on the natural environment, and the potential environmental alternatives is a necessity. Various governmental and non-governmental institution can have a vital role in environmental education including, schools, universities, formal media,

digital media and others (Schmid-Petri et al., 2015; Mavrodieva et al., 2019). The purpose of environmental education is to provide individuals with sufficient environmental knowledge, increase commitment, boost motivation, and shape positive behaviors towards the natural environment (Hassan et al., 2010; Samuelsson et al., 2018).

Environmental education can start in the early stages within the curriculum at the school level (Rentzou, 2021; Abd-Rahman et al., 2022). Educating students about the environment at early stages at the school level is crucial to introduce them to the basics of environmental protection and environmental problems and can create more responsible individuals (Rahman et al., 2018). However, at their young age they might not be able to grasp all the environmental topics or see the full picture (Moseley et al., 2019). Therefore, targeting students at the university level become imperative. Those students are more mature, educated and responsible about their behaviors (Stockert and Bogner, 2011; Goldman et al., 2015; Kyriakopoulos et al., 2020; Abd-Rahman et al., 2022). Further, the general public perceive them as future leaders and decision makers who will make substantial contributions for the sustainability of the planet for future generations (Lozano et al., 2013). Therefore, higher education institutions have a vital role in equipping students with sufficient environmental knowledge, raising their level of awareness, promoting environmental behaviors, impelling innovative environmental solutions and creating environmentally-responsible citizens (Adomssent, 2013; Piyapong, 2019).

Higher education institutions have been in the spotlight for centuries as they are the source of future role models, decision makers, leaders, and entrepreneurs. They have been at the frontline in breaking the traditional paradigms and introducing new ones. However, many

institutions remained traditional; relying on their heritage, replicating themselves, or replicating other successful institutions (Lozano et al., 2013). This traditional approach is no longer valid; as higher education institutions are facing colossal challenges and pressures to be active members in the sustainable development of their societies. Indeed, in recent years many higher education institutions have been engaged in sustainable development. However, this trend is still in its infancy stage; as it has not been diffused to all disciplines, and many of their courses and curriculums remained traditional and have not been modified to achieve the goals of sustainable development (Vicente-Molina et al., 2013; Piyapong, 2019). Thus, almost all these institutions are far behind companies in contributing to the sustainable development of their societies. As a result, higher education institutions are required to effectively engage in sustainable development, and cultivate their students' environmental awareness. They have to properly design their courses in accordance with the core concept of sustainable development and find innovative ways for educating their students about the natural environment and impelling environmental behaviors.

One innovative tool that can be used in environmental education is shocking photos. Recent studies suggest that exposure to shocking photos and imagery can trigger environmental behaviors and raise environmental awareness among individuals (Liu et al., 2021; Trabadelarobles, 2022). Research has revealed that individuals can easily engage with photos and get affected by them (Braasch, 2013). Shocking photos are eyes catching, they can capture individuals' attention, stimulate the conscious thinking and impel the implementation of a desired course of actions (Popp and Mendelson, 2010; O'Neill, 2013; Leviston et al., 2014; Sollberger et al., 2017). This echoes the famous old saying "A photo is worth a thousand words". Moreover, to have the shock appeal, Dahl et al.,

(2003) explains that the photo must catch people's eyes, surprise them, and violate the norms. These norms can be categorized into eight types namely; disgusting images, sexual references, profanity/obscenity, vulgarity, impropriety, moral offensiveness, and religious taboos.

Further, a recent study by Liu et al., (2021) found that exposure to climate change shocking photos can raise low-carbon awareness and promote low-carbon behaviors. In the same vein, a study by Czarnecka, (2022) revealed that shocking photos is one of the most influential tools to deliver strong messages to the audience and can potentially lead to positive behavioral changes among diverse population. However, within the extant literature, few studies have attempted to investigate the impact of shocking photos in educating and creating environmental awareness among university students in developing countries. Therefore, this research aims to fill this gap; it is one of the first studies to target the Middle Eastern region by exploring the impact of shocking photos in environmental education and creating environmental awareness among Jordanian university students. Further, this research presents a unique and distinctive view of environmental education, which will be beneficial for higher education institutions to consider integrating shocking environmental photos into their curriculum and training sessions.

Materials and Methods





This research has an exploratory nature aiming at exploring whether using shocking photos about pollution, environmental degradation and global warming can help in educating students about the consequences of their daily behaviors on the natural environment. Therefore, data for this research was collected through 4 focus groups each containing 10 university students. Focus groups has a long history in the field of humanities and social sciences. It has been widely

used as a valuable tool for collecting qualitative data that is rich and in-depth and capturing perceptions, emotions, thoughts, experiences, insights and impressions of the participants about a phenomenon in their own words. "Focus groups are predominantly beneficial when a researcher intends to find out the people's understanding and experiences about the issue and reasons behind their particular pattern of thinking" (Dilshad and Latif, 2013, pp. 192-193).

This research went into five phases; first planning for the focus groups which involved selecting the shocking photos, writing the questions and deciding the appropriate population for the study. As for the photos, the researcher conducted a Google image search for shocking photos about pollution, environmental degradation and global warming. An initial list of twenty photos were selected that have a shock appeal based on the types defined in the seminal work of Dahl et al., (2003). The initial list of photos was carefully selected for appropriate content taking into account the conservative traditions and religious beliefs of the Jordanian society. The list was then sent to seven experts in the field of environmental management for their opinion and feedback and was downsized into ten photos. Table 1 includes the photos used in this research along with their description.

The second phase was composing the focus groups, to recruit participants for this research, a purposive sampling method was used on a population of first year university students enrolled in environmental course such as Environmental Development, Environmental

Management and other related courses. The participants were then divided into four groups each contains ten students, which is line with the recommendations of many scholars that each group should contain between six and twelve participants (Stewart & Shamdasani, 1990; Patton, 2002; Denscombe, 2007). Further, the third phase was conducting the focus groups, the researcher served as the moderator, at the beginning of each session, the researcher emphasized the confidentiality rules and informed the participants that the sessions were recorded, the participation is voluntary and the identity and details will remain anonymous. In each session, the participants were exposed to the list of shocking photos provided in Table 1 and were asked to describe their emotions and feelings about these photos and whether this kind of photos would influence their behaviors and increase their environmental awareness. The sessions were conducted in May 2022 and each session lasted between 40 to 60 minutes. Saturation was reached in the third focus group, no additional information was gathered afterwards. Moreover, the fourth phase was transcribing the focus groups sessions and translating them into English, afterwards the transcriptions were coded and analyzed using NVIVO 12. Finally, two overarching themes were identified "Emotions about the shocking photos" and "Impact of shocking photos on future behaviors and environmental awareness". Findings and results from this research were then summarized and will be discussed in the following section.

No	Photo	Description
1		<p>“Illustration of planet Earth steaming hot in a pan over a fire”</p>
2		<p>“Illustration of air pollution going directly into human bodies”</p>
3		<p>“Illustration showing a body of a fish filled with waste with a message Less Plastic, More Life”</p>
4		<p>“Illustration of Sushi rolls wrapped in plastic and filled with waste with a clear message, What Goes In The Ocean Goes In You”</p>

5		<p>“A Plastic bag with a clear message, Plastic Bags KILL, keep our oceans clean”</p>
6		<p>“Ice Pops filled with Plastic, waste and contaminated water”</p>
7		<p>“Plant for the Planet, using cut leaves with a clear message, Every Leaf Traps CO₂”</p>
8		<p>“Illustration of Planet Earth as a flaming Matchstick and a Human is blowing on it”</p>

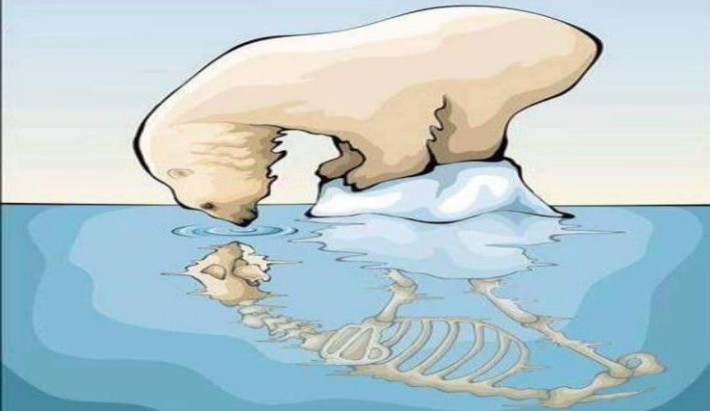

<p>9</p>		<p>“Illustration of a polar bear standing on a small iceberg that is melting, seeing its carcass”</p>
<p>10</p>		<p>“A plastic bag with a clear message, I Kill The Planet”</p>

Table 1: A List of the photos used in this research along with description

Results and Discussion

Two overarching themes were identified from the focus groups sessions; “Emotions about shocking

photos” and “Impact of shocking photos on future behaviors and environmental awareness”. Table 2 presents the overarching themes and sub themes emerged from the data collected in this research.

<p>Overarching Themes</p>	<p>Sub Themes</p>
<p>Emotions about the shocking photos</p>	<p>The feeling of Disgust The feeling of Fear The feeling of Guilt</p>
<p>Impact of shocking photos on future behaviors and environmental awareness</p>	<p>Rethink about Behavior Increased Environmental Awareness No Impact on Behavior</p>

Table 2: Overarching themes and sub themes

As for the first overarching theme regarding the emotions about the shocking photos, data showed that the shocking photos triggered three types of emotions among the participants; feeling of disgust, feeling of fear, and feel of guilt. All of the photos triggered some negative emotions among all the participants. However, some

photos were more shocking than the others. Photo 3, 4, and 6 were the most disgusting for the participants. These photos illustrated pollution through different forms of waste and reflected it on what we eat. The following are some quotes relating to these photos;

“That is really nasty, makes me feel sick” (A participant commenting on photo 3)

“Oh my God! That is extremely disgusting. I just can’t imagine we would be eating such things at a certain point of time!” (A participant commenting on photo 4)

“Very disgusting photo and very shocking message: What Goes In The Ocean Goes In You” (A participant commenting on photo 4)

“EWW, absolutely disgusting! I love ice popsicles, but I think I will not buy it again. I won’t forget this photo” (A participant commenting on photo 6)

Moreover, photos 1, 2, 8, and 9 triggered feelings of fear more than the others. These photos illustrated global warming, pollution, and environmental degradation. The following are some quotes relating to these photos;

“It is really scary to see that the Earth is really on fire” (A participant commenting on photo 1)

“That is really shocking and frightening that we actually smelling and eating this amount of pollution” (A participant commenting on photo 2)

“That is really scary, we are burning the planet, Oh my God!! Is it really this bad? I didn’t imagine we reached this point” (A participant commenting on photo 8)

“Seeing this photo put me in tears! I am very afraid to think that the planet is melting and will be flooding soon” (A participant commenting on photo 9)

Further, photos 5, 7, and 10 triggered feelings of fear more than the others. These photos illustrated different forms of pollution and its impact on the planet. The following are some quotes relating to these photos;

“I can’t look at this photo again. Seeing this poor little turtle choking makes me feel guilty for each time I used a plastic bag. Those poor little

animals!!” (A participant commenting on photo 5)

“Very creative photo, it really filled me with guilt. I am really sorry for each time I randomly cut of a leaf or maybe cut it for fun” (A participant commenting on photo 7)

“This really makes me ashamed of myself for each time I used a plastic bag which I honestly quite often do. Plastic bag is pretty much a part of our daily life. What a photo and what a message!! Goodness me” (A participant commenting on photo 10)

Moreover, regarding the second overarching theme “Impact of shocking photos on future behaviors and environmental awareness”, three sub themes have emerged; “Rethink about Behavior”, “Increased Environmental Awareness”, and “No Impact on Behavior”. First, all participants emphasized that these photos have made them rethink about their daily behavior. The following are some quotes relating to this sub theme;

“I would definitely think again about my plastic usage, I would always remember this poor little turtle”

“It is really horrifying that poor, innocent animals are suffocating because of our actions”

“Sure, I am going to think twice before throwing anything unconsciously”

“These photos are truly a waking up call”

“Honestly, my behaviors are not environmental at all, seeing these photos really makes me think again about my ecological footprint”

Further, regarding the second sub theme “Increased Environmental Awareness”, all participants stressed that the shocking photos used in this research increased their environmental awareness about the consequences of their daily behaviors on the natural

environment. 85% of the participants noted that they will be talking about these photos to their friends and family members to spread environmental awareness among them. Moreover, 70% of the participants emphasized that they will be considering more environmental options such as; using paper bags, reusing their shopping bags, recycling their waste if applicable, and any other possible behavior. However, they pointed out that a nationwide campaigns and initiatives would be more effective to enhance the environmental awareness of the society. Additionally, 60% of the participants suggested that these kinds of photos must be displayed in common areas with high population density such as; universities, parks, shopping malls and others. They also noted that this kind of photos must be included in introductory environmental courses for all university students. However, the other 40% of the participants argued that while these kinds of photos would shock people and most probably increase their environmental awareness, they would be very horrifying for children that might be in the parks or shopping mall. The following are some quotes relating to this sub theme;

“I already knew that plastic bags are not good, but I didn’t know it can cause this kind of damage to the planet”

“I fully understand now that each action I do will have an impact on the environment”

“I believe these shocking photos should be hanged everywhere. Everyone must be responsible for his actions and must know that he is causing harm to the environment”

“I think we should see these shocking photos in the environmental development course that I am currently enrolled in, many students take this course and I think it will have a huge impact”

“These kinds of photos must be used in a nationwide campaign; I believe this would be very effective”

“I would be talking to my family to consider minimizing our plastic consumption”

“I am going to search around my neighborhood for recycling facilities”

Finally, regarding the sub theme “No Impact”, 30% of the participants noted that while these photos have shocked them, they would not be able to change any of their behaviors. That’s due to the lack of environmental-friendly alternative in the society. The following are some quotes relating to this sub theme;

“I understand the consequences of my behavior, but I am going to be honest is there any other options? Look around all the shops and supermarkets use plastic bag!! How am I going to hold my stuff without a plastic bag”

“If you give me a more environmental-friendly option at no additional cost, I would take but until then there is nothing in my hands”

“I am aware of the impacts of our life styles on the environment, I want to be more environmental- friendly person, but simply I can’t I need fuel for my car, I have to use plastic bags, there is no facility for recycling. See nothing in my hands, so I believe nothing would change”

Conclusion

The purpose of this research was to investigate the impact of shocking photos in environmental education and creating environmental awareness among Jordanian university students. A list of ten shocking photos about pollution, environmental degradation and global warming was presented to forty university students divided equally into four focus groups sessions. The results show that shocking photos can be highly influential in educating students about the impact of their

behaviors on the natural environment. Most of the participants noted that these photos were very shocking and horrifying that made them rethink about their daily behaviors and its implications on the environment. Therefore, incorporating shocking photos in introductory environmental courses can be highly beneficial in environmental education and can enhance environmental awareness among university students. However, the lack of environmental alternatives in Jordan might limit students' ability to be more ecologically responsible. Moreover, future research may empirically test the impact of shocking photos on environmental behaviors on a wider population.

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