The Current Progress of Malaysian Media and Environmental Non-Governmental Organisations (ENGOs) in Environmental Education: An Evaluation

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Abstract

This study discusses environmental education facilitated by the media and environmental non-governmental organisations (ENGOs) in Malaysia. A total of 13 respondents from *Utusan Malaysia* and *The Star*, and 11 respondents from the World Wide Fund for Nature (WWF) Malaysia and Malaysia Nature Society (MNS) were interviewed. The results showed that the Malaysian media and ENGOs view their roles in environmental education similarly, which are mainly to raise awareness and disperse knowledge to the public. However, the media is more focused on educating the public about environment through their features and newspaper articles while the ENGOs facilitate environmental education not only via their newsletters but also through environmental programmes like eco-school. The respondents concur that the topics of environmental education are highly technical, hence, call for all stakeholders to carry the educational responsibilities. It is hoped that the result of this study can serve as a guideline for both social actors in Malaysia, especially for the organisations' management to find a way to overcome these limitations for a better environmental education in the future.

Keywords: Malaysia, environmental education, media, ENGOs, interview

Introduction

In the fourth quarter of 2017, Malaysia, a developing country in Southeast Asia, recorded a total population of 32.3 million people (Department of Statistic Malaysia 2018). Malaysia is best known for its multiculturalism and multiethnicity (Olmed, Smith and Mansor 2015), where its population consists of Malay as the majority (50.3%), Chinese (23.8%), Indian (7.1%) and other smaller ethnic groups (Arbabi et al. 2016).

In keeping with sustainability and environmental concerns, Malaysia supports Agenda 21, which promotes environmental education and awareness among its citizens. Environmental issues are thus neither new nor taboo for the nation, compared to other countries like Turkey that views environmental education as novel (Ors 2012). Malaysia is committed in supporting Agenda 21 (Hanifah and Shaharudin 2016), and practices Chapter 36 that promotes environmental education in research, training and collaboration with more developed countries like Denmark and Japan for its betterment (Aini, Nurizan and Fakhru'l-Razi 2007). In fact, the significance of environmental education was emphasised by the Malaysian government in the National Policy on the Environment (2002) under the green strategies on education and awareness (Habibah and Muniandy 2010).

Despite the government's emphasis on environmental education, the implementation of formal environmental education, especially in schools, is still not non-comprehensive (Agnes 2011). Up to date, no specific environmental subject is taught in Malaysian schools and environmental education is embedded in the syllabus of other subjects like Biology, Geography and Science (cross-curriculum education) (Rozita, 2004; Aini, Nurizan and Fakhru'l-Razi, 2007; Aminrad et al. 2012). Thailand implements similarly that environmental education is only taught at university level (Bootrach and Thiengkamol, 2015). However, other Asian countries like India taught a compulsory subject of Environmental Studies in

schools, colleges and undergraduate level, under India's Supreme Court directive of 1991 (Aram 2012). Accordingly, in February 2017, the Ministry of Natural Resources announced that Malaysia will be introducing specific environmental studies subject in schools and universities to increase public awareness and mindfulness of the environment (Arumugam 2017).

On the other hand, informal or outdoor environmental education in Malaysia is considerably progressive. A recent study by Baniah and Daniel (2016), found that in communicating environmental education, parents educate their children verbally, model exemplary actions and behaviours, as well as instill moral values. Furthermore, as the main sources of environmental knowledge, media and ENGOs are actively involved in establishing environmental education in Malaysia, which they promote by organising talks, workshops, seminars, campaigns and other environmental awareness activities (Aini and Laily 2010; Aini, Nurizan and Fakhru'l-Razi 2007).

Despite the active roles, studies that underline the responsibilities of Malaysian media and ENGOs in environmental education is scarce. Plus, the comparison between the roles of both parties in environmental education is yet to be recognised. Many related research were focused on other stakeholders like parents' and teachers' (Baniah and Daniel, 2016), and state government, e.g. Sabah (Arba'at and Susan 2011), in environmental education. These include studies of the roles of pre-school teachers in environmental education (Aini and Laily 2010) and greening and sustainable activities among teachers and students (Mahat et al. 2015). Next, the discussion on the roles and challenges of media and ENGOs in environmental education will be presented.

Roles and Challenges of Media and ENGOs in Environmental Education

The roles of media in environmental education was first highlighted in the Stockholm Declaration on the Human Environment (1972). Environmental education was included in Principal 19:

"It is also essential that the mass media of communication avoid contributing to the deterioration of the environment, but, on the contrary, disseminate information of an educational nature on the need to protect and improve the environment in order to enable man to develop in every respect" (p. 5).

In line with the Stockholm Declaration on the Human Environment (1972), many past researchers agreed that media plays an important role in environmental education. Ors (2012) and Kushwaha (2015) for instance, highlighted that media play a vital role in garnering the public's attention and creating awareness on environment issues, and most importantly, take an action to solve environmental problems. Other scholars like Keinonen et al. (2014) also agreed that the media, including traditional media (newspaper, radio and etc.) and new media (Facebook, Twitter and etc.) create a platform for the public to obtain environmental information.

In China, for instance, 70 percent of environmental information is retrieved by the public through media like television (Chen 2012). Thus, it is pivotal for the media to provide more of environmental information for public awareness and knowledge. Furthermore, media's role is beyond providing environmental information as it also plays important roles in interpreting the environmental issues and policies, and subsequently, present them to the public (Boykoff 2009).

In the meantime, similar to the media, ENGOs also play an imperative role in environmental education. Agarwal (2008) stated that NGOs can support environmental protection and education through different ways, including disseminating environmental information, conducting environmental awareness campaign and providing training to the community. Agarwal, Badruddin (2015), provided an example on how Indian ENGOs, like the Assam Science Society (ASS), play their roles in environmental education by conducting training sessions with teachers and school students in camps as well as through publication of books and journals. Similarly, other researcher like Chen (2012) provided an example on how Chinese ENGOs i.e. Friends of Nature in China, actively educate the Chinese community through programmes like the Antelope Car project. Inherently, unlike the media, ENGOs usually educate the public about the environmental issues via their programmes and activities.

Within the Malaysian context, the significant roles of media and ENGOs in environmental education have been clearly highlighted by the Malaysian government under the Seventh Malaysia Plan and the Economic Planning Unit (1996). Both social actors provide the prominent medium in supporting government environmental campaigns for Malaysian's environmental awareness, knowledge and practices (Aini, Nurizan and Fakhru'l-Razi 2007). However, despite the significant roles of media and ENGOs in environmental education, there are several challenges faced by them that worth to be highlighted.

Singh and Serina (2012) argued that two main challenges commonly faced by the Malaysian ENGOs during the environmental education are financial constraints, especially for conducting environmental campaigns and the effectiveness of educational plans such as lack of manpower to work on the environmental campaigns. Other scholar like Aminrad et al. (2012) also agreed that lack of funding among implementers [i.e. ENGOs and media] is also one of the challenges in environmental education in Malaysia, besides other challenges, such as public's attitude towards environmental issues, lack of environmental knowledge among implementers, etc. Other scholars like Naoufal (2014) which study focused on the Lebanese context described several challenges that could be faced by environmental educators [including the ENGOs and media], in environmental education. These include, (a) cognitive challenge as environmental issues like climate change are invisible and not tangible (b) social and psychological challenges where environmental issues like climate changes, are considered part as of people's live and, (c) behavioral and situational challenges as reflected by the public's reluctant to change their lifestyle to be more environmentally friendly.

Study aims

From the analysis of past studies, it is safe to conclude that the roles of Malaysian media and ENGOs in environmental education and the challenges they face are yet to be reported. Realising the centrality of environmental issues in Malaysia, this study addresses this this gap to systematically highlight the roles, responsibilities and challenges of Malaysian media and ENGOs in environmental education. The primary aims of the study are to: (a) identify the roles of Malaysian media and ENGOs in environmental education, (b) examine the challenges faced by Malaysian media and ENGOs in environmental education, and (c) discover the possible directions to improve environmental education by the Malaysian media and ENGOs. The next section describes the methodology of this study.

Methodology

A qualitative in-depth interview was selected as the method of this study as it allows the respondents to freely discuss their thoughts (Alpers 2016). Based on purposive sampling, 13

respondents (i.e. journalists and/or editors) from two selected mainstream Malaysian media organisations, *The Star* and *Utusan Malaysia*, and 11 respondents from two Malaysian ENGOs organisations, namely as World Wide Fund for Nature (WWF) and the Malaysian Nature Society (MNS). The number of respondents were determined by using the data saturation technique.

The respondents were selected based on three main criteria: (1) Experienced in writing environmental articles/stories or communicating environmental information, (2) Had at least a year of working experience, and (3) Were permanent or former staff of the organisation. Added to purposive sampling, the sample selection in this study also involved the snowball sampling method as some potential ENGO members, journalists and editors were recommended by their colleagues. This method is particularly crucial to reach experienced journalists who were specifically focused on environmental issues; as the Malaysian media rarely assigned specific environmental desk, hence, most journalists were required to cover all types of news (Nik Norma 2007). Therefore, the snowball sampling strategy, which involves adding on respondents until data saturation is achieved, enabled the researchers to select potential journalists or editors recommended by their acquaintances.

The Star and Utusan Malaysia were chosen as media representatives due to their high daily publication circulation of 288,916 copies and 178,211 copies per day (July to December 2012) (Audit Bureau of Circulation Malaysia, 2012). Likewise, WWF and MNS were selected to represent the ENGOs due to the recognition they received as two of the most active Malaysian organisations in research, education and conservation efforts (Rusli and Sheikh 2005). Logistically, many of the media and ENGOs respondents were working at the capital city of Malaysia, namely as Kuala Lumpur during the period of data collection.

All the interview sessions were on an individual (one-to-one) basis, between the researchers and the respondent. In many occasions, the interviews were held at the respondents' offices privately. An average interview lasted approximately 40 to 120 minutes, depending on the willingness and ability of the respondents to discuss the topics. At the end of each interview, the researchers solicited personal contact details for possible follow-up interviews in future. During the interview, the researchers clearly explained the objectives and scope of the research. Permission to audio-record the entire conversation was also obtained from all respondents. The respondents were assured that the data would be treated confidentially and used only for academic purposes.

The qualitative data management software, MAXQDA, was used to analyse the interview transcripts, which were then organised using Braun and Clarke's (2006) thematic analysis to find themes and sub-themes. The findings of this study are presented in the next section.

Results

The participants in the study consisted of 54 percent Malaysian media (*The Star* and *Utusan Malaysia*) and 46 percent ENGO organisations (WWF and MNS). The female respondents formed the majority with 71 percent (N=17), and only 58 percent (N=14) of the total number of participants had 1-5 years working experience. Perhaps, this was due to the fact that there were smaller numbers of journalists and ENGOs staffs who have acquired more work experiences as many of them are not editors or ENGOs managers. More respondents preferred conversing in English (58 percent, N=14), while the other chose to respond *Bahasa Melayu*

(42 percent; N=10); which reflect the organisations they associated with, i.e *The Star* is an English daily while *Utusan Malaysia* is a *Bahasa Melayu* daily.

A majority of the participants (96 percent) graduated with bachelor's degrees, with 8 percent having master's qualifications. Only one interviewee from Utusan Malaysia graduated with high school qualifications. Many media respondents were trained in communication and journalism, while those from the ENGOs underwent various trainings including science, environment, sustainability, business and education. The tertiary education level of the respondents demonstrates their professionalism and elite status as educated human capitals. It is crucial to note that the profile of the respondents have no relation to the interview result but only serves as an overview to get to know the background of respondents involved in this study.

Table 1 Profile of respondents

	The Star (N)	Utusan Malaysia (N)	WWF (N)	MNS (N)
Number of interviewees	6	7	6	5
Identification codes	(EJ1-EJ6)	(EJ7-EJ13)	(EN1-EN6)	(EN7-EN11)
Language				
Malay	-	7	-	3
English	6	-	6	2
Gender				
Male	2	4	-	1
Female	4	3	6	4
Working experience				
1-5 years	4	2	3	5
6-10 years	1	-	3	-
11-15 years	-	3	-	-
16 years and above	1	2	-	-
Education level				
High school	_	1	_	_
Bachelor degree	6	6	5	4
Masters degree	-	-	1	1
Background of study				
Communication and journalism	4	3	1	-
Environment				
Science	-	3	-	2
Sustainability	1	-	-	1
Other	-	-	_	1
	1	1	5	1

The analysis of the interview transcripts yielded four major themes: (a) The roles as environmental educators, (b) The different medium of environmental education, (c) The various challenges of environmental education, and (d) The need to improve environmental education. These themes are discussed in more details below.

(a) The roles as environmental educators

Many Malaysian media and ENGOs respondents agreed that they play an imperative role in educating the public about environmental issues. As environmental educators, it is crucial for both media and ENGOs to create awareness of the importance of protecting the environment among Malaysians. One of the media respondents from *The Star* stated that:

"...of course, it is important because the media is basically creating awareness and screen information, and our job is to dig out information, and to obtain information, which sometimes, the general public cannot get, so you have to tell them a lot of things..." (ID EJ2).

Besides that, a majority of Malaysian media and ENGOs also corresponded that as environmental educators, they do not only create environmental awareness, but also play a role in changing the public's mindset towards pro-environmental behaviour. One of the ENGO respondents from WWF explained:

"...we [are] actually trying to change the mindset so that they [Malaysian] behave differently. A very simple issue would be, you know, just throwing rubbish, pollution, we do not just want to tell people pollution is the problem, like rubbish will end up in the sea and it is polluting the coral reef and all that, we are actually telling them that, you know, this is going to affect your corals which are going to affect your fish, and then, what we end up eating, so it is beyond that, is not just informing or educating, ..." (ID EN6).

Interestingly, some Malaysian media and ENGOs respondents also highlighted that as environmental educators, it is important for the social actors to include entertainment aspects of environmental education, such as catchy environmental articles that the public would enjoy.

"...I think it also included, all journalists are there to entertain as well, and to, provide entertainment for the readers so they enjoy it..." (ID EJ7).

(b) The different medium of environmental education

Categorically, the media are pro-profit institutions, while the ENGOs are non-profit organisations. Hence, these establishments have distinct, unique environmental education activities. For the media, i.e. *The Star* and *Utusan Malaysia*, their environmental education is mostly through feature articles. In comparison to news article, feature articles contain more content and spaces for the explanation and discussion of a singular environmental topic. One media respondents from *Utusan Malaysia* commented:

"...Educating is more through the feature articles [as the articles are] longer..." (ID EJ12).

Quite similarly, the Malaysian ENGOs educate the public about environmental matters through their newsletters and magazines publication. Most importantly however, they conducted various environmental education engagement programmes with the community in raising awareness and spreading knowledge. One ENGO interviewee from MNS described:

"...so, one of the good example is the Rakan Napoh programme in Tioman. Napoh [programme] is actually a rare mouse deer species found in Tioman. They are being hunted down for their meat, as we want to conserve the species, what we do is we spend a lot of time in the *kampung* [village] and telling these people about why Napoh is very important, and why they should protect it, and how they can work together with this species for ecotourism and all that. We came out with this 'Rakan Napoh' programme, which is managed by the villagers themselves, and then they can educate the tourists who come into the village..." (ID EN6).

(c) The various challenges of environmental education

Based on the analysis, there are several challenges faced by the Malaysian media and ENGOs in facilitating environmental education. Some media respondents stated that the challenge for the media is in educating the public about environmental issues in Malaysia where the topics of the environment are considered as heavy, and therefore, most environmental information in the newspaper appear to be less scientific. One of media respondents from *Utusan Malaysia* confirmed:

"...we lack scientific elements... Most of us think that science and environment is a heavy topic and we are lazy to think about it... We are only concerned on whether the issues are related to human, public interest... We do not have any 'education' element where we do not have it at all or we do not have much of it..." (ID EJ6).

Additionally, it is hard for the Malaysian media to play their roles as environmental educators as they are restricted under the control of media outlet owners and advertisers that clearly influence the type of information that can be published on newspaper. Advertisers were the one who paid for the advertisement, thus the media is not allowed to discuss environmental information that can jeopardise their reputation.

"...if you want it become educator then it becomes very 'slippery' because advertisers, political ownership, that kind of things..." (ID EJ7).

Unlike the media, the challenge for ENGOs in environmental education is related to the constraints imposed by their limited funding, which affects their environmental programmes and activities, such as claimed by one of the ENGOs respondents from WWF:

"... sometimes, our biggest challenge, I think, is trying to do as much as possible with no budget..." (ID EN4).

Another challenge for the ENGOs in environmental education is associated with the discipline itself, which is not a priority for the nation. Malaysians, in general, are more interested in other matters such as political and economy, rather than environmental issues.

"...I think educator still in a very minimum role because I think our Eco-Schools project as we can say, we can consider that as an educator, but it is not significant enough, not by our country..." (ID EN3).

(d) The need to improve environmental education

The media and ENGOs respondents in this study agreed that all stakeholders should be empowered and be responsible of environmental education. Two participants highlighted the importance of formal environmental studies in schools, as some topics are embedded in Science and Geography curriculum, rather than function as a standalone subject.

"...I think environmental topics should be [taught] in school. In my opinion, we should educate Malaysians since they are young in schools, so that they know the importance of the environment..." (ID EJ11).

Discussion

The findings show that the Malaysian media and ENGOs in this study share similar views of their roles in environmental education, particularly in creating awareness of the importance of environmental protection, providing environmental knowledge, and changing the public's mindset to become more environmental friendly. It indicates that the different aims and orientations as pro-profit and non-profit organisations did not influence the respondents' perceptions of their roles and responsibilities in promoting environmental education. The result of this study is in line with past studies by Agarwal (2008), Ors (2012), Chen (2012), Keinonen et al. (2014), Badruddin (2015) and Kushwaha (2015) that media and ENGOs play an important role in educating the society about the environment.

A novel discovery was made from the interviews in relation to educational environment, i.e. the value of entertainment in environmental education. The Malaysian media and ENGO respondents agreed that the components of entertainment should be integrated within their roles as environmental educators. This is mainly to gauge the public's interest, encourage them to perceive environment topics as fun, light and positive and promote discussions. Entertainment-infused-education that employs music, television, theatre, radio, etc. to communicate certain messages with the prime aim to engender a change in the audience's behaviour and attitude (Murrar and Brauer 2017), is not a new concept in the field of environmental education; but one that needs reviving in Malaysia.

It goes without saying that the Malaysian media and ENGOs preferred different channels to educate the public about environmental issues. A key finding of this study is that the media rely on publications to disperse environmental knowledge, while the ENGOs rely on programmes and activities, e.g. environmental campaigns and training for communities, for environmental engagement. For the media institutions, narrative feature articles (Zdovc, 2009) are one of the most suitable medium for environmental education as it is longer than news article and allow the media to detailed and discuss environmental issues. The result of this study is consistent with Mohamad Saifudin and Nik Norma (2017) who discovered that Malaysian journalists preferred to use feature articles and investigative reporting to educate the public about sustainability issues in Malaysia.

While playing their roles as educational educators, the Malaysian media and ENGOs respondents faced many challenges during the process. The Malaysian media found it difficult to focus on their roles as environmental educators, as they were responsible to cover other issues as well. This is essentially because Malaysian media outlets did not have a specific environmental desk (Nik Norma 2007). For instance, the environmental reporting in *Utusan Malaysia* is embedded with other desks, such as Science and Technology. Journalists juggle between many other news coverage, hence, have a limited time and space to focus on

environmental education. Added to this, the discussion of an environmental issue is often a heavy and complex task; therefore, some journalists struggle to report it. For instance, environmental risk issues like nuclear radiation, is complex and requires elaborate explanation, which would possibly lead to misinformation among the public (Putnam 2002).

In line with the claims of past researches by Singh and Serina (2012) and Aminrad et al. (2012), a majority of the ENGOs respondents confirmed that their organisations possessed limited funding for environmental education and therefore, it is tough for them to conduct and sustain their environmental programmes or research projects. The WWF, for example, requires a total of RM 15,800 (approximately USD 3813) to cover the expenses of field equipment for its tiger conservation project, on top of other costs (WWF's website 2016).

Essentially, the Malaysian ENGOs emphasised that Malaysians are not interested to learn about environmental issues, thus to educate them is a challenging task. Ironically, unlike 'rice and curry', which are part of the Malaysian life, the Malaysian society at large are more interested in political and economic matters rather than environmental issues.

The respondents from the Malaysian media and ENGOs agreed that all stakeholders including parents at home and the government should be responsible to play the roles of environmental educators. One way that this could be achieved is to raise the youngsters' awareness of the environment by introducing Environmental Studies subject in schools. Children who explicitly learn and are well-versed in environmental issues will become good green citizens.

Conclusion

The result of this study shows the status of environmental education among the two most prominent Malaysian stakeholders, the media and ENGOs. Consequently, it is evident that informal environmental education is progressive and thriving in Malaysia. The result of this study emphasised the active roles played by the Malaysian media and ENGOs in communicating environmental education, particularly in creating awareness, providing environmental knowledge and changing the public's mindset to help develop green citizens. As both social actors come from different academic and working backgrounds, their channels to promote environmental education are different. Perhaps, the social actors could learn from each other to further spread environmental awareness. For instance, the media might consider conducting more environmental programmes and activities with the community, much like the ENGOs, instead of only relying on feature articles and investigative reporting.

Furthermore, the results of this study show that the Malaysian media and ENGOs faced various of challenges in promoting environmental education in Malaysia. The discussions of these challenges presented earlier in this study, could thus serve as a guideline for the social actors, especially for the organisations' management to find ways and overcome limitations for a better environmental education. Most importantly, the suggestions made by the Malaysian media and ENGOs respondents towards the improvement of environmental education should also be considered by the Malaysian government. Future research could study the roles of other stakeholders in furthering Malaysian environmental education, e.g. the government, scientists, and universities.

Conflict of interest

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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References

- Agarwal, A. (2008). Role of NGOs in the protection of environment. *Journal of Environmental Research and Development*, 2(4), 933-938.
- Agnes, A. M. (2011). Implementation of environmental education: a case study of Malaysian and Nigerian secondary schools. *Paper presented at 2010 International Conference on Biology, Environment and Chemistry IPCBEE*, IACSIT Press, Singapore.
- Aini, M. S., & Laily, P. (2010). Preparedness of Malaysian pre-school educators for environmental education. *Pertanika J. Soc. Sci. and Hum.*, 18(2), 271-283.
- Aini, M. S., Nurizan, Y., & Fakhru'l-Razi, A. (2007). Environmental comprehension and participation of Malaysian secondary school students. *Environmental Education Research*, *13*(1), 17-31. DOI= http://dx.doi.org/10.1080/13504620601122616.
- Alpers, L. (2016). Distrust and patients in intercultural healthcare: A qualitative interview study. *Nursing Ethics*, 1-11. DOI= https://doi.org/10.1177/0969733016652449.
- Aminrad, Z., Sharifah Zarina, S. Z., Abdul Samad, H., & Sakari, M. (2012). Environmental education in Malaysia, progresses and challenges ahead (review). *Life Science Journal*, 9(2), 1149-1154.
- Aram, A. (2012). Why do media academics keepoff environmental reporting? *Asia Pacific Media Educator*, 22(2), 243-252. DOI= https://doi.org/10.1177/1326365X13498171.

- Arbabi, K., Yeh, C. J., Mahmud, Z., & Salleh, A. (2016). From monocultural to multicultural: Adaptation of Iranian immigrant adolescents in Malaysia. *Journal of Adolescent Research*, 1-32. DOI= https://doi.org/10.1177/0743558416630811.
- Arba'at, H., & Susan, P. (2011). The informal environmental education value practices among adults in Sabah, Malaysia. *Journal of Turkish Science Education*, 8(1), 20-28.
- Arumugam, T. (2017). Environmental Education mooted as new subject in schools, universities. Retrieved from http://www.nst.com.my/news/2017/02/213980/environmental-education-mooted-new-subject-schools-universities.
- Audit Bureau of Circulation Malaysia. (2012). *Circulation figures newspapers-Peninsular Malaysia*, *July 2012 To December 2012*. Retrieved from http://abcm.org.my/wp-content/reports/2012/ABC-Circulation-Figures-Pen-Mal-Geog-Dist-Jul2012toDec2012.pdf.
- Badruddin, S. T. (2015). Role of NGOs in the protection of environment. *Journal of Environmental Research and Development*, 9(3), 705-712.
- Baniah, M., & Daniel, E. S. (2016). Informal and formal environmental education infusion: Actions of Malaysian teachers and parents among students in a polluted area. *The Malaysian Online Journal of Educational Science*, 41, 9-20.
- Bootrach, P., & Thiengkamol, N. (2015). Environmental education strategy. Applied Environmental Education and Communication, 14, 200-212. DOI= https://doi.org/10.1080/1533015X.2015.1096223.
- Boykoff, M. T. (2009). "We speak for the trees": Media reporting on the environment. *Annual Review of Environment and Resources*, 34, 431-458. DOI= https://doi.org/10.1146/annurev.environ.051308.084254.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77-101. DOI= https://doi.org/10.1191/1478088706qp0630a.
- Chen, J. (2012). Contributions of environmental NGO to environmental education in China. *IERI Procedia*, 2, 901-906. DOI= https://doi.org/10.1016/j.ieri.2012.06.189.
- Department of Statistic Malaysia. (2018). Demographic Statistics Fourth Quarter (Q4) 2017, Malaysia. Retrieved from https://www.dosm.gov.my/v1/index.php?r=column/ctwoByCatandparent_id=115andmenu_id=L0pheU43NWJwRWVSZklWdzQ4TlhUUT09.
- Habibah, L., & Muniandy, P. (2010). Environmental education (EE): Current situational and the challenges among trainee teachers at teachers training institute in Malaysia. *Procedia Social and Behavioral Sciences*, 2, 1896-1900. DOI= https://doi.org/10.1016/j.sbspro.2010.03.1005.
- Hanifah, M., & Shaharudin, I. (2016). Education for sustainable development in Malaysia: A study of teacher and student awareness. *GEOGRAFIA OnlineTM Malaysian Journal of Society and Space*, 12(6), 77-88.
- Keinonen, T., Yli-Panula, E., Svens, M., Vilkonis, R., Persson, C., & Palmberg, I. (2014). Environmental Issues in the Media-Students' Perceptions in the Three Nordic-Baltic Countries. *Journal of Teacher Education for Sustainability*, *16*(1), 32-53. DOI= https://doi.org/10.2478/jtes-2014-0002.
- Kushwaha, V. S. (2015). Mass media in disseminating environmental awareness. *International Journal of Research–GRANTHAALAYAH*, 3(9), 1-4.
- Mahat, H., Idrus, S., Hashim, M., Nayan, N., & Saleh, Y. (2015). Transforming sustainability development education in Malaysian schools through greening activities. Review of International *Geographical Education Online* ©*RIGEO*, 5(1), 78-94.
- Mohamad Saifudin, M. S., & Nik Norma, N. H. (2017). Do Malaysian Journalists Really Understand What Sustainability Is? *Journal of Sustainability Education*, 13, 1-17.

https://doi.org/10.1177/1368430216682350.

- Murrar, S., & Brauer, M. (2017). Entertainment-education effectively reduces prejudice.

 Group Processes and Intergroup Relations, 1-25. DOI=
- Naoufal, N. (2014). Peace and environmental education for climate change: challenges and practices in Lebanon. *Journal of Peace Education*, 11(3), 279-296. DOI= http://dx.doi.org/10.1080/17400201.2014.954359.
- Olmed, E., Smith, W., & Mansor, M. M. (2015). Ethnic groupism: Understanding ethnicisation of work in Malaysia. *Ethnicities*, 15(6), 810-828. DOI= https://doi.org/10.1177/1468796815581427.
- Ors, F. (2012). Environmental education and the role of media in environmental education in Turkey. *Procedia-Social and Behavioral Sciences*, 46, 1339-1342. DOI= https://doi.org/10.1016/j.sbspro.2012.05.298.
- Rozita, I. (2004). Promoting environmental literacy in Malaysian society-challenges and opportunities. *Jurnal Pengajian Umum*, 5, 51-62.
- Putnam, T. L. (2002). Workshop report communicating nuclear risk: Informing the public about the risks and realities of nuclear terrorism. Retrieved from http://iisdb.stanford.edu/pubs/20063/NuclearRisk.pdf.
- Rusli, M., & Sheikh, A. B. A. (2005). Why join an environmental NGO? A case study of the Malaysian Nature Society. *Pertanika J. Soc. Sci. and Hum.*, 13(1), 39–46.
- Singh, H. R., & Serina, A. R. (2012). An approach for environmental education by nongovernmental organizations (NGOs) in biodiversity conservation. *Procedia-Social and Behavioral Sciences*, 42, 144-152. DOI= https://doi.org/10.1016/j.sbspro.2012.04.175.
- WWF's website, (2016). *Help fund the wildlife warriors*. Retrieved from https://www.pandashop.my/wildlifewarrior/.
- Zdovc, S. M. (2009). More stories, more readers? *Journalism Practice*, *3*(3), 319-334. DOI= http://dx.doi.org/10.1080/17512780902798745.