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Design and Implementation of a Movie Trailer-Like Video – An Application for a Prosocial Video on YouTube –

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(Student ID Number : 81534759)

Supervisor Takashi Maeno

September 2017

Graduate School of System Design and Management,
Keio University
Major in System Design and Management
SUMMARY OF MASTER’S DISSERTATION

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**Abstract**

Nowadays, YouTube videos can reach people of all ages. Though most of YouTube users are still adults (people above 18), many school teachers show the educational videos from YouTube to their young students (people under 18). This is an advantage for Third Sector Organizations (TSOs), because their prosocial videos now can be watched by the entire audience. However, even though Entertainment-Education strategy has high potential to enhance the attractiveness of prosocial videos, it is not clear which popular entertainment type of YouTube can be used to design prosocial videos. The project aims to prove that “movie trailers” is a suitable popular entertainment type for devising prosocial videos. We invited adult users of YouTube to evaluate two prosocial videos both of which deliver the same information while only one of them has movie trailer characteristics (MTCs) of Animation and Family movie genre. The testing results indicate that the prosocial video with MTCs of Animation and Family movie genre is considered attractive to children but not to adults. The present project enriches the existing knowledge of Entertainment Education strategy by proving “movie-trailers” is a practicable option for prosocial video design. Future work should keep trying other movie genres for adult viewers, applying other entertainment types and exploring the possible use of movie trailer-like videos in real classrooms.

**Key Word(5 words)**

Prosocial videos; Movie trailer characteristics; Entertainment-Education strategy; Third sector organizations
Acknowledgement

I would like to express my sincere gratitude to people who have contributed to this project. This accomplishment would not have been possible without their open-handed assistance. Foremost, my heartfelt appreciation goes to my thesis supervisor Prof. Takashi Maeno of graduate school of System Design and Management at Keio University. Throughout the project, Prof. Maeno granted me great freedom to choose the topic and consistently provided timely instruction. Meanwhile, I am deeply grateful to the funding resource given by Design the Future Award of Keio University. The adequate financial support allowed me to fully concentrate on my thesis work.

Special thanks also to Prof. Pauli, funder of Zero Emissions Research and Initiatives. During my video production, Prof. Pauli patiently shared his broad knowledge and generously made insightful comments and suggestions. I would also like to acknowledge all the participants involved in the validation stage. Their precious time and constructive feedbacks were an invaluable help for evaluating the video produced in this project.

Finally, I owe a very important debt to my dear parents and friends. Their continuous encouragement and lasting care got me through all those dark days. In my years of study, so many things seemed too challenging to overcome. Without them, I would not have held out until the last.

Again, thank anyone of you who have ever helped me in this project.

It is really a fortune in my life.
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1. Introduction

Nowadays, YouTube is an important marketing tool for third sector organizations (TSOs). TSOs are one of the most active groups on YouTube (Google, 2013). Likewise, YouTube is top-three commonly used social medias among TSOs (Kivi Leroux Miller, 2016; Nonprofit Tech for Good, 2017). With the giant user base of YouTube (Google, 2013), TSOs are able to promote their prosocial messages to an even broader range of audience than one decade before.

The prosocial videos made by TSOs are now going beyond the boundary of adult users of YouTube. Currently, YouTube has become a popular educational resource among teachers at all level of schools because of its abundant educational videos (Jones & Cuthrell, 2011). Since it is normal for educators to bring YouTube videos into their classrooms, it is reasonable to assume prosocial videos have high possibility of reaching younger students.

However, even TSOs’ prosocial video now can reach the people of all ages, mere presence does not guarantee a positive impact on the viewers (Google, 2013). To heighten the effectiveness of prosocial videos, existing literature strongly suggests adopting Entertainment-Education strategy (E-E strategy) to design prosocial videos (Steffes & Duverger, 2012; Wang & Singhal, 2009). That is to say, prosocial messages may have better pedagogical value if they are packaged into popular entertainment media (PEM) such as soap operas (Lacaya & Williams, 2008). The pedagogical value here is referred to the power that can encourage the video viewers to take prosocial action.

E-E strategy has been widely practiced all over the world and broadly discussed in academia. Prosocial television-inspired successive waves of prosocial movements at national

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1 According to Arroyo (2012), the definition of third sector organizations is “all non-governmental organizations and non-commercial enterprises that do not distribute profits among their members, like NGOs, development NGOs, foundations, associations”.

2 Entertainment-Education is defined as “a theory-based communication strategy for purposefully embedding educational and social issues in the creation, production, processing, and dissemination process of an entertainment program, in order to achieve desired individual, community, institutional, and societal changes among the intended media user populations” (Wang & Singhal, 2009).
level are the best evidence of E-E strategy’s capability (Lacaya & Williams, 2008). Nevertheless, most cases are about television shows rather than prosocial videos which usually last for four and half minutes (minimatters, 2017). So far, barely no prior research has clearly indicated an entertainment type appropriate for designing prosocial videos. It is an overlooked area worth further exploration for TSOs, because most YouTube users seek for entertainment value in YouTube videos (think with Google, 2013).

We believe it is time to suggest an entertainment type for designing prosocial videos. Since E-E strategy has achieved great success through television shows over the past decades (Hoffhaus & Lubjuhn, 2010; Julia-Lena, Sarah, Martine, & Arvind, 2014; Lacaya & Williams, 2008; Reilly, 2012; Singhal & Svenkerud, 1994), it has great potential to score the same victory on YouTube videos. It is an educated guess that prosocial videos with familiar entertaining elements can spur noble pedagogical value which means the capability of persuading prosocial actions.

This project seeks to demonstrate that movie trailers is a proper entertainment type to advertise prosocial action. Movie trailers is the second popular entertainment type on YouTube (think with Google, 2014). Although its popularity is behind music videos, movie trailers itself is essentially a narrative advertisement (Kernan, 2009), it could be competent at delivering complex information very effectively, such as prosocial messages.

To prove movie trailers’ feasibility to be an entertainment type for designing prosocial videos, we compared the difference in the pedagogical values of two prosocial videos. One has movie trailer characteristics (MTCs) while the other does not. We acquired two videos by equipping an existing prosocial video (original video) with MTCs to produce a new video (new video). We will refer the original video as O.V and new one as N.V in this project report. O.V is a prosocial video uploaded by the proposer of The Blue Economy, Gunter Pauli. We kept consulting with Prof. Pauli during the production of N.V. Besides, we intentionally adopted MTCs of Animation and Family movie genre to make the new video to
satisfy the audience of all ages.

Given the motivation of this project, an academic hypothesis set in the project is:

*MTCs can increase the pedagogical values of a prosocial videos on YouTube.*

To measure the pedagogical values of O.V and N.V, we invited adult users of YouTube to evaluate two videos from the perspectives of either an individual user or a primary school teacher. We aimed not only to investigate the ultimate performance of two videos, but also to discuss the influence of each MTC. Therefore, we conducted experiments which include questionnaires and interviews.

The main body of the report is organized into five chapters. So far, we have gone through the first chapter: Introduction, in which we introduce the background and main activities of the project. The following chapters are Related Work, Technical Process, Testing Results, Evaluation and Conclusion. Before moving forward to the next chapter, we provide an abbreviation list below for your reference when reading the project report.

**Abbreviation List of the Report**

- E.E: Entertainment Education
- MTCs: Movie Trailer Characteristics
- NV: New Video
- OV: Original Video
- PEM: Popular Entertainment Media
- TSOs: Third Sector Organizations
2. Related Work

Having given an introduction of the current project, we will now move on to the chapter of related work. This chapter has four sections. It begins by examining the trend of TSOs’ usage of YouTube. What follows is the discussion on YouTube’s ubiquitous presence in the school classrooms. Next, we take a look at how popular entertaining media can make social change. Then, we thoroughly present the production of modern movie trailers. Finally, the last section provides a simple description of The Blue Economy.

2.1. YouTube and the Third Sector Organization

YouTube has been recognized as a world-class video sharing website since 2008 (Burgess & Green, 2013). A marketing and advertising software company reports that YouTube is the second-largest search engine behind Google (Top 100 global brands on YouTube. 2013). Also, YouTube was selected as the most popular online video properties in one worldwide survey (Statista, 2015b). There are other countless notable YouTube statistics reports conducted in recent years and we list some of their results below. From these impressive numbers, what can be seen are the potential and magnificence of YouTube’s popularity in this digital era.

List of YouTube Statistics

- In one month, YouTube processes more than 3 billion searches (mushroom NETWORKS, 2013).
- Every single minute, there are 400 hours of video content were uploaded to YouTube (Statista, 2015a).
- Every 5 years, video uploaded on YouTube increases exponentially by about 10 times (Tom Coughlin, 2016).
- Every day, 1 billion hours of content are consumed on YouTube (Statista, 2017).
- YouTube has over a billion users — almost equal to 33% people on the Internet (YouTube, 2017).
Because of its ever-growing user base, YouTube already becomes a prevalent marketing tool for all kinds of organizations (Top 100 global brands on YouTube. 2013; Hartmann, Mainka, & Peters, 2013; Nonprofit Tech for Good, 2017). Aside from access to the wide audience, YouTube also provides “YouTube Analytics”, a real-time analysis service allowing video publishers to measure the video effectiveness (YouTube Help, 2017). It is a very handy analysis tool, because organizations can use the analysis results to quickly examine the performance of their YouTube videos (American Institute of CPAs, 2015). For example, all of viewers’ activities on videos such as clicking like, share, comment, add to my favorites and subscribe (YouTube Help, 2017) will be recorded and transformed into reports promptly. Figure 1 shows the basic viewers’ activities on YouTube interface. With its public usage and convenient measurement tools, YouTube has evolved into a dominant social media and been incorporated into many organization’s marketing strategy (Social media impact study for associations 2016. 2016; Hartmann et al., 2013; Nonprofit Tech for Good, 2017).

Figure 1. User activities on YouTube.

TSOs are one of the rapid-growing groups on YouTube (Google, 2013). Likewise,
ranking only behind Facebook and Twitter, YouTube is the third most used social media among TSOs (Kivi Leroux Miller, 2016; Nonprofit Tech for Good, 2017). Through YouTube, TSOs can reach a global audience under their limited financial resource (Kang & Norton, 2004). Tight marketing budget is one principal critical issue for TSOs (Kivi Leroux Miller, 2016), while YouTube may lower the financial pressure because it offers free service and extra support for nonprofit organizations.

In addition to benefits of low cost, YouTube, like other social media, significantly increase the effectiveness of TSOs communication with public (Waters & Jones, 2011). TSOs mainly disseminate educational and informational message on YouTube (Waters & Jones, 2011). With YouTube, TSOs can raise their brand awareness and engage the public to participate in TSOs’ prosocial action. Video viewers may visit TSOs’ official websites and further become supporters, donors and volunteers (Convio, 2010; Nonprofit Tech for Good, 2017; Waters & Jones, 2011). In two YouTube-published guides for nonprofit, there are many successful cases about how some TSOs capitalized on the YouTube phenomenon to win over public attention and support (Google, 2013; Google, 2014a).

As TSOs’ reliance on YouTube is amplifying, so as the scholars and practitioners’ attention to the content of TSO’s YouTube videos. Some of them constructed several guidelines of how to design a prosocial video. “YouTube Nonprofit Program” suggests TSOs focus on creating great content based on ten fundamental principles, such as shareability, conversation and interactivity (Google, 2017). In academia, some scholars examined the content of existing TSOs’ YouTube and made suggestions. Almaraz, González and Van-Wyck (2013) pointed out TSOs’ YouTube videos have clear information while low level of

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creativity. Waters and Jones (2011) built-up six rules\textsuperscript{4} for TSOs’ YouTube video production, such as including a story, being brief and being relevant to the audience.

In the literature related to social media for nonprofit use, it is broadly accepted that YouTube opens up new opportunities for TSOs to communicate with the public more effectively. However, mere presence does not guarantee TSOs can successfully motivate the video viewers (Google, 2013). To utilize YouTube to the fullest, scholars suggest that TSOs learn from the benchmarks – videos with high popularity – when producing videos (Waters & Jones, 2011).

2.2. YouTube Video in Classrooms

YouTube videos not only bring entertainment to individual users, but also make their ways into the classrooms in all level schools (Jones & Cuthrell, 2011). YouTube is deemed to be a more adult-oriented website (Eickhoff & de Vries, 2010). In fact, its video consumption grows rapidly mainly among people aged above 18 years (think with Google, 2016).

However, YouTube videos are now reaching more and more younger students through the hands of their teachers. As a number of statistic reports indicate, YouTube videos are recently actively used as one educational tool by primary and secondary educators (Burks & Winstanley, 2014; Schmucki, Hood, & Meel, 2009).

Several academic articles have discussed the main drivers to YouTube videos’ frequent appearance in the classrooms. From the perspective of supply, YouTube is known for its abundance of free, interesting and educative videos. This makes it a lot easier for today’s teachers to get supplementary videos that suit their pedagogical purposes than one decade ago (Burks & Winstanley, 2014; Fleck, Beckman, Sterns, & Hussey, 2014). On the other hand, videos fit the demand which students have on their learning process in digital era. Watching video already becomes a crucial activity in the tech-savvy generation’s daily life

\textsuperscript{4} The six rules to create powerful YouTube videos are 1) Tell a story. 2) Be brief. 3) Keep simple and narrowly focused. 4) Make a story relevant to the audience. 5) Persuade the audience to take action at the end. 6) Be genuine.
(AdReaction, 2016) and therefore it is a comfortable way for them to learn given their high
digital proficiency (Greenberg & Zanetis, 2012).

The prevalence of bringing audiovisual materials into classrooms creates an advantage
for explaining prosocial subjects. Videos significantly influence students’ learning at
cognitive as well as affective level (Cruse, 2011). Some prosocial topics are perceived to be
complex, such as sustainable development (Hoffhaus & Lubjuhn, 2010). While videos, with
both aural and visual elements, can help learners process complex information (Steffes &
Duverger, 2012). Second, videos are also emotionally appeal to students by sparking viewers’
interests which catalyze further information absorption and processing (Cruse, 2011).
Moreover, videos play a vital role in providing the context similar to the real world, so that
students can know how to transfer new concepts into real action. In result, by stimulating
cognitive and affective realm in viewers’ brain, videos are believed to have high potential to
accelerate the early stages of behavioral change (Greenberg & Zanetis, 2012; Lacaya &
Williams, 2008).

Aside from confirming that teachers can benefit from YouTube’s rich educational
videos, researchers also emphasize the necessity to select videos wisely for the classes.
Though YouTube has wealth of diverse videos, educators have to choose carefully in
pursuance of truly adding pedagogical impact on student. Being relevant to the course is
often listed as the top consideration when a teacher is searching for the videos for the
classrooms (Burke & Snyder, 2008a; Cruse, 2011; Fleck et al., 2014; Greenberg & Zanetis,
2012; Jones & Cuthrell, 2011). There are other common suggestions, such as being short and
including humor (Cruse, 2011; Greenberg & Zanetis, 2012). Undoubtedly, YouTube videos
can be a powerful tool for teachers, while the value depends on its congruence to the
educational purposes and the video preference of the students (Steffes & Duverger, 2012).

In this section, we have seen that YouTube has apparently evolved into a contemporary
educational resource for teachers of young pupils. This fact extends the influence of TSOs’
videos to the audience outside the YouTube boundary. Therefore, it is worth the effort for TSOs to create and put children-oriented educational video on their YouTube websites.

2.3. Popular Entertaining Media for Social Change

Since a Mexican soap opera featuring embedded social messages made a nationwide sensation in 1970s, the use of popular entertainment media (PEM) to disseminate prosocial messages to the public has been extensively adopted in many countries (Brown & Singhal, 1993b). This marriage between PEM and prosocial messages is generally referred as a communication strategy called Entertainment Education strategy (E-E strategy) (Brown & Singhal, 1993b). To date, many successful cases have repeatedly proven that E-E strategy is effective in engaging the public and then brings about social change (Lacaya & Williams, 2008). Furthermore, E-E strategy seems to be even more important for today’s younger generation since they have grown up surrounded by entertainment media (Reilly, 2012).

At first, E-E strategy was mainly used to address health-related issues. But now, it has been increasing applied on diverse agendas, such as peace, environment and gender equality (Lacaya & Williams, 2008). Table 1 provides some practice examples of prosocial PEM.

Table 1.
Prosocial Entertainment Media Examples

<table>
<thead>
<tr>
<th>Name</th>
<th>Production country</th>
<th>Social cause addressed</th>
<th>Source</th>
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<tr>
<td>Oshin (1993)</td>
<td>TV-series</td>
<td>Woman role model</td>
<td>(Brown &amp; Singhal, 1993a)</td>
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<td></td>
<td>Japan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soul City (1994)</td>
<td>TV-series</td>
<td>Health education</td>
<td>(Lacaya &amp; Williams, 2008)</td>
</tr>
<tr>
<td></td>
<td>South Africa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chuyen Que Minh</td>
<td>Radio-series</td>
<td>Enological engineering</td>
<td>(Julia-Lena et al., 2014)</td>
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Seeing the huge impact created by the E-E strategy based prosocial PEM, a number of scholars examined the reasons behind the success of E-E strategy. There are at least three

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5 The definition of prosocial messages is “any communication that depicts cognitive, affective, and behavioral activities considered to be socially desirable or preferable by most members of a society” (Rushton, 1982).
reasons frequently mentioned in previous studies. Firstly, given the saturation of PEM in the
daily life of modern people, prosocial messages can reach more audience if they are packaged
into PEM (Brown & Singhal, 1993b; Hoffhaus & Lubjuhn, 2010). Secondly, PEM, like TV
series, usually provides life stories to which the audience can easily feel emotionally
connected (Hoffhaus & Lubjuhn, 2010; Julia-Lena et al., 2014; Lacaya & Williams, 2008).
Moreover, characters inside the stories can play role models for the audience to imitate the
desired behaviors. In sum, instead of preaching people what to do, E-E strategy adopts a less
didactic approach to persuade behavioral change (Hoffhaus & Lubjuhn, 2010; Julia-Lena et
al., 2014; Lacaya & Williams, 2008).

In the extant literature regarding E-E strategy in PEM, soap operas remain the most
discussed media formats. However, now YouTube videos are rising as a new competent PEM
candidate for E-E strategy since the website has been considerably eroding the audience share
The average video length on YouTube is 4 minutes and 20 seconds (minimatters, 2017).
Although it hasn’t been well-explored about how to implement E-E strategy in such short
audiovisual media, some scholars have proved that entertaining elements do have positive
effect on YouTube’s educational videos. For example, in one content analysis of YouTube
videos posted by TSOs, Almaraz et al (2013) found that videos featuring comedy are
perceived to be more creative but less understandable to the audience. However, it is still not
clear about how to execute E-E strategy in prosocial videos on YouTube.

The value of entertaining elements is widely recognized for YouTube videos. Many
studies or guidebooks attempt to show the importance of being entertaining. By analyzing of
20 viral videos, West (2011) indicates that the entertaining elements such as irony, good
music and elaborate action are commonly shared in those highly-ranked videos. Also, in the
guide book for creators published by YouTube, entertainment is acknowledged to be one of
the core value mostly delivered to the audience on YouTube (Google, 2014b). Existing
literature shows clearly that entertaining elements in YouTube videos do arouse positive response from the audience (Khan, 2017).

Based on the literature reviewed in from section 2.1 to 2.3, we can see that YouTube videos, as one kind of present PEM, have great potential to realize E-E strategy and to effectively deliver the prosocial messages. However, YouTube videos is still an underdeveloped category to the best of our knowledge. Specifically speaking, it remains as-yet-unknown which entertaining type\(^6\) of YouTube videos can remarkably contribute to the prosocial communication as TV series did. As a result, it is unclear which entertaining genres TSOs could be leveraged to produce the prosocial videos for the sake of stimulating higher engagement from the audience.

Figure 2. The knowledge gap in E-E strategy

2.4. Movie Trailer

2.4.1. Movie Trailer Definition

Movie trailers are commonly used promotional tool in motion picture industry. They are regarded as mini-films comprised of the best bits of an upcoming movie. Therefore, movie trailers are like free samples which help the audience form an anticipation for the as-yet-unseen features. Because movies trailers are believed to make the first impression of a movie and hence influence the box office, both major and independent studios are very demand on

\(^6\) Entertaining types may include Music, Gaming, Film and Animation, etc. (Statista, 2013)
the quality of the new movie trailers (Garrett, 2012; Marich, 2013).

For a single movie produced in Hollywood, generally movie marketers will prepare two kinds of trailers. First comes the teaser trailers, which usually last from 90 to 120 seconds. Teaser trailers often only reveal handful footage and aim to position the genre of a movie to hook the potential audience. Following the teaser trailers runs the movie trailers which usually have around 2 minutes and 30 seconds. Movie trailers convey a more complete story while withholding the fullness of the future cinema event. As digital media evolves, movie trailers expand their presence from the theaters, televisions, to the video sharing platforms, such as YouTube. Since using social media like YouTube costs less, it is common to see movie marketers upload movie trailers which are in excess of 150 seconds (Kernan, 2009; Marich, 2013).

Taken as centerpiece of movie marketing campaign, movie trailers are responsible for selling the forthcoming movies. Movie trailers pitch the feature films to the audience by showing a cluster of compelling clips without entailing the story ending. Thereby they can trigger audience’s expectation and arouse their desire to see the full version in theaters. Moreover, the impact of movie trailers could extend further if they go viral and create a word-of-mouth effect among moviegoers (Film Education, 2009; Kerrigan, 2010). That is how the modern movie trailers tout the promoted movies and allure the audience to buy the cinema tickets.

2.4.2. Movie Trailer Power

With the advent of video sharing platforms, movie trailers catch more and more attention to the movies coming out soon. Movie trailers are the second popular genre just behind the music videos on YouTube and able to attract over 100,000 views within one week (Garrett, 2012). The craze about movie trailers drives the job opportunities of trailer editors (Faughnder, 2015). Some viewers even upload the fan-made trailers which also widespread on the digital landscape (Williams, 2012). Before a movie greets the world, movie trailers
already captivate large crowds lining up to welcome its opening (Garrett, 2012).

As an audio-visual medium, which can best speak a movie’s flavor and nuance (Marich, 2013), movie trailers are proven to have multiple positive contributions. They not only prompt a rally in box office (Oh, Ahn, & Baek, 2015) but also investors’ willingness to throw money in a newly-launched movie (Karray & Debernitz, 2017). In addition, there is a famous annual award called The Golden Trailer Awards for excellent works of movie trailers. The reputation of the award implies that the performance of movies trailers will also influence a movie’s reputation. Given their powers stated above, movie trailers are now the most elaborated promotional materials in the field of film marketing(Marich, 2013).

2.4.3. Movie Trailer Production Stages

From the view of a trailer editor, making a movie trailer basically can be summarized into four stages. Throughout the whole process, every decision the editor makes should be in align with needs of the movie marketers (Marich, 2013). Detailed explanation of each stages is shown below:

① Set the requirements

Right after receiving the film footage, the editor will discuss with the marketers about marketers’ expectation on movie trailers. During the discussion, marketers may mention what genre, tone and even specific elements they want the movie trailers to display. Based on the marketers’ requests, editor will set a list of requirements which the movie trailers should meet (Garrett, 2012; Marich, 2013).

② Design the content

In accordance with the requirements, the editor embark on crafting the concepts of the movie trailers. In practice, each genre of movie trailers, such as action, comedy and drama, has its own conventions. Customarily, the editor would follow those conventions to design the content or mimic the outstanding existing works. The editor then maps out the initial ideas on the storyboards and submit them to the marketers. If granted with the permission
from marketers, editor can move onto the next stage (Garrett, 2012; Marich, 2013; Rayner & Wall, 2008).

③. Produce

The editor uses editing software to create visual and audio text. The input materials essentially come from the movie footage. Then the editor acts like a cook adding extra shots, sound and visual effects, voice-over, intertitles, and music songs in the clips. The editor will make a rough-cut at first and deliberate their works until all the pieces are well connected (Film Education, 2009; Garrett, 2012; Marich, 2013).

④. Carry out the test

After the movie trailers are finished, marketers will give the directions on revision. Meanwhile the movie trailers will be evaluated by a group of selected respondents in monadic tests. They will be screened in front of the respondents who have to answer a series of questions as their feedback. Based on the results of marketers’ comments and monadic tests, the editor will keep refining the original version until the satisfactory testing results show up (Marich, 2013).

Although not being mentioned much in literature, exiting movie trailers on YouTube could be helpful for the trailer editor to design the contents of new movie trailers. When the final versions of movie trailers are posted on the YouTube, their popularity becomes a predictor of movie’s performance. Prior studies have found there is a positive relationship between the viewer engagement (i.e. likes, share and comments) and the box office or the rating (Apala et al., 2013; Oghina, Breuss, Tsagkias, & de Rijke, 2012; Oh et al., 2015). Thus, it is worth for the editor to learn from other sensational masterpieces YouTube.

2.4.4. Movie Trailer’s General Characteristics

Existent literature describes characteristics of movie trailers in different aspects. Normally, the topics include their functions, composition, conventions and explanation for the effectiveness. The three most-mentioned functions and corresponding importance are
listed as follows:

- **Function1**: convey a story
  
  The audience is long for a story instead of a bundle of disconnected scenes (Finsterwalder, Kuppelwieser, & de Villiers, 2012; Marich, 2013; Yanagisawa, Iida, & Amasaka, 2014).

- **Function2**: address and speak to the audience
  
  This function directly persuades the audience. For example, the voice over in movie *One Day* implies when the audience should go to the theater. What he said is “This summer, experience the lives of two people, for one day each year…” (One day official trailer.2011; Maier, 2011).

- **Function3**: portray a specific genre
  
  Genre preference significantly affects the decision on movie consumption of a moviegoer. Accurately exhibiting the traits of a certain genre helps grab the attention of the target audience (Film Education, 2009; Finsterwalder et al., 2012; Jerrick, 2013).

After knowing three main functions of movie trailers, we display the composition of movie trailers as below (Film Education, 2009; Finsterwalder et al., 2012; Garrett, 2012; Jerrick, 2013; Kerrigan, 2010; Maier, 2011; Marich, 2013):

- **Time duration**: around 2:30 minutes
- **Material type**: audio, visual and audio-visual
- **Material source**: movie footage, background music, voice-over, sound effect, intertitle(card) and visual effect

The following are the conventions of movie trailers and their effects on the audience. Three functions mentioned above are realized by these conventions.

- **The overall pattern is fast-paced and all the materials are assembled as dynamic montage. The frequent change of images can hold audience attention** (Dornaletetxe, 2014; Moeller, 1996).
• The main body is a short story based on three-act structure. The story begins with the introduction of main characters and environments. Next, some disruptive events (i.e. crisis) take place to complicate the protagonists’ lives. Finally, the tension of crisis reaches the climax and the last few scenes leave a clue of possible resolution to the audience. A carefully-condensed story in movie trailers help the audience capture a clearer picture of the full story (Finsterwalder et al., 2012; Garrett, 2012; Marich, 2013).

• The ending of the story remains unknown. Movie trailers usually stop at a cliffhanger whetting the audience’s appetite for the unbridged version (Kernan, 2009).

• There are adorable characters. When the audience are able to identify with the characters, they become eager to learn the resolution in the narrative world (Jerrick, 2013; Kernan, 2009; Marich, 2013).

• Entertaining scenes (e.g. hilarious, tense, touching, etc.) come one after another (Film Education, 2009). When watching the highly emotional plots, audience will form the expectation on the entertainment value embedded in the movie (Finsterwalder et al., 2012; Jerrick, 2013).

• Background music dominates the overall tone. Music shapes the atmosphere and draw the audience into the storyline in an unconscious way (Film Education, 2009; Finsterwalder et al., 2012; Garrett, 2012; Jerrick, 2013).

• Voice-over and flashcards set up premises and give the information about the release date. Voice-over and flashcards mystify the movie and leave the audience in suspense by popping up the questions or promises (Garrett, 2012; Maier, 2011). For example, in the trailer of Maid in Manhattan (2002), the voice-over said “This Christmas, no matter who you are, destiny will find you”. At the beginning of The Secret Life of Pets (2016) trailer, the flashcards show “Ever wonder what your pets do when you’re not home?”.

• Names of actors, directors, production companies and awards will be strongly emphasized if they are lucrative. The audience will judge the quality of the movie fully
or partially based on the reputation of production team or the credits the movie receives (Finsterwalder et al., 2012; Jerrick, 2013; Kernan, 2009).

2.5. The Blue Economy

The initiator of The Blue Economy is Gunter Pauli, a Belgium entrepreneur and the founder of a third sector organization: **Zero Emissions Research and Initiatives** foundation (University of Sydney, 2011). For many decades, Pauli has devoted to promoting a more sustainable economic system at both local and global level. Right now, because of his rich experience and expertise in sustainable economy, he is active in all the continents and sectors — governmental, industrial, academic and voluntary — as a designer, an advisor and a lecturer (Beyers, 2017; Pauli, 2017b).

The Blue Economy is an economic philosophy proposed by Pauli in 1994 (Pauli, 2017a). The essence of The Blue Economy is that: by learning from our nature, we could find solutions which utilize locally available resource to fulfill all the basic needs. Under the principles of The Blue Economy, business models are built by cascading a cluster of economic activities and the linkage between the activities are innovated according to the nature inspiration. Simply speaking, the byproduct of one activity or even unused materials will be the input to another activity. Hence, the waste is reduced to the minimum and even transformed to a business opportunity with great value. Such untraditional business models could generate multiple cashflows and plentiful jobs to the local economy and maintain a strong ethics at the core (Newman, 2013; Pauli, 2017a; Pauli, 2017b).

When promoting The Blue Economy, Pauli is fully aware that it is hard to sway the business practice of large corporations and hence swifts his targets to the younger generations (Newman, 2013). Pauli collects innovative ideas worldwide and shares them on his official websites and in his published books. To date, Pauli already presents approximate 100 case studies on the website and each of them perfectly exemplifies the spirit of The Blue Economy. For youngsters, Pauli has created fables to pique their interests in The Blue
Economy. By leveraging the sharing power of contemporary media, Pauli tries to spark young people’s motivation to be an entrepreneur as a foundation for a sustainable future (Pauli, 2017a; Pauli, 2017b).

Besides the websites and books, Pauli also exploits social media to foster the exposure of The Blue Economy. On YouTube, Pauli uploads a 3 minutes and 30 seconds video in 2010 to introduce The Blue Economy to the netizens. The video is a monochrome simple slideshow which illustrates the concepts of The Blue Economy with the most memorable case: recycling coffee waste for growing mushrooms. So far, the video has accumulated over 176,000 views (Pauli, 2010).
3. Technical Process

3.1. Project Purpose and Overview of Technical Process

This project aims to bring higher pedagogical value of a third sector organization’s prosocial video on YouTube by equipping the video with MTCs. Many educators of today are seeking educational videos on YouTube for young students. This phenomenon may increase the exposure of TSOs’ YouTube videos to pupils. However, present literature does not clearly suggest any suitable entertainment type for TSOs to make their prosocial videos. This is worth effort because entertaining effects are already proven to boost learning outcome. Therefore, we chose one of the most popular entertainment types – movie trailers – to reform an existing prosocial YouTube video for the purpose of enhancing the video’s ability to persuade prosocial action.

We carried out the project in cooperation with Gunter Pauli, the proposer of The Blue Economy. Prof. Gunter has an introduction video of The Blue Economy on YouTube. We used the video as foundation for our new video featuring MTCs. As mentioned in first chapter, we will indicate the original video given by prof. Gunter as O.V and refer new video created by us as N.V in the remaining of the report. In this project, Prof. Gunter mainly provided the comprehensive explanation of The Blue Economy and confirmed our proposal may invoke surprise among youngsters. We present a quick view on the project below.

- **When:** From 2016 August to 2017 March
- **Who:** Cooperate with a founder of a third sector organization, Gunter Pauli
- **What:** Produce a new prosocial video for The Blue Economy
- **How:** Equip the original video with MTCs
- **Why:** Increase the video’s pedagogical values

From the academic perspective, the research question we attempt to answer is:

*Can movie trailer characteristics increase the pedagogical value of prosocial videos?*

We will define the MTCs and pedagogical values in the next section.
The whole technical process consists of four stages which are widely adopted in the schools characterized by design or engineering projects. Meanwhile, we blended the common practice of producing movie trailers into our technical process. We began with Requirement Definition at which we formed a set of requirements. Next, we moved on to Design to shape concrete ideas for N.V. After finalizing the ideas, we produced N.V at the stage of Implementation. Ultimately, we headed to Testing and examined how well N.V fulfills the requirements forged at the very beginning stage. We will provide more detailed information for each stage in the following sections.

3.2. Stage One: Requirement Definition

Based on the project purpose, we created three fundamental requirements which N.V should accomplish. Below is an overview:

- First requirement (Req1): N.V has to convey the same information as the O.V does.
- Second requirement (Req2): N.V has to exhibit MTCs.
- Third requirement (Req3): N.V has to possess more pedagogical value than O.V does.

The following sub-sections give more details about how we developed each requirement and their derivative specifications.

3.2.1. Req1: N.V has to convey the same information as O.V does.

In our project, the core differences lie between N.V and O.V are the presence of MTCs, which are our interest. We must ensure no other factors will influence the audience response other than MTCs. As a result, we extracted the nucleus of O.V to be the basis of N.V and thereby both of them deliver the same information about The Blue Economy.

We broke down O.V frame by frame to obtain its visual and audio scripts. Figure 3 displays the transcription process and Appendix A presents the entire results. Overall, we condensed the contents of O.V into four key points with which we constructed the backbones of N.V. Then we transformed the four points into sub-requirements: Req1-1, 1-2, 1-3 and 1-4. That is to say, N.V should cover all the information listed below:
• **Req1-1**: The Green Economy is not perfect.

• **Req1-2**: A coffee grounds example illustrates the concept of The Blue Economy.

• **Req1-3**: Entrepreneurs of The Blue Economy can create a better world than The Green Economy does.

• **Req1-4**: The purpose of the O.V is to promote The Blue Economy.

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Figure 3. Process of transcribing The Blue Economy. mov

3.2.2. **Req2**: N.V has to exhibit MTCs.

The main actual output of this project is a movie-trailer like video. Consequently, we needed to endow N.V with features of movie trailers. But before making a clear list of MTCs, we had to consider which movie genre is appropriate for our project. This is because MTCs vary from genre to genre. Based on the discussion with Prof. Pauli, we understood that his target audience includes people of all ages. Thus, we determined to adopt an all permitted genre: Animation and Family, which is also a category on annual trailer awards (2016 Golden Trailers Award, 2017).

After choosing the genre, we had to acquire the MTCs of Animation Family movies. We analyzed the current winners of Golden Trailer Awards and also reviewed the literature.
regarding the conventions of movie trailers in section 2.4.4. Finally, we settled at seven basic characteristics and thereby they became the sub-requirements: Req2-1, Req2-2, Req2-3, Req2-4, Req2-5, Req2-6 and Req2-7. We illustrated the seven sub-requirements with an existing trailer of a worldwide-known movie — *Frozen (2013)*. The box office of *Frozen (2013)* is fifth-biggest in the history and the trailer won the best Animation and Family movie trailer of GTA 2014 (2016 Golden Trailers Award, 2017). Below, we list and provide examples of each sub-requirement.

- **Req2-1**: The video mainly talks about a fiction story. The fiction story we perceive from *Frozen (2013)* trailer is: in a summer, citizens of Arendelle suffer from an icy world because their queen (Elsa) freezes her kingdom. A brown-hair girl and her companions — an ice-harvester and a snowman — try hard to get summer back while the road is full of twists and turns. It is apt to identify the elements of a fiction story such as characters, problem and conflict.

- **Req2-2**: Scenes change dynamically in terms of time and space. According to a rough calculation, in total there are 22 scenes and 13 flash cards flow alternately in 150 seconds, the video length of *Frozen (2013)* trailer. In the full movie, one scene lasts averagely 36 seconds which is much longer than 2.8 seconds (=150/55) in the movie trailer of *Frozen (2013)*.

- **Req2-3**: The video provides many entertaining scenes, such as dramatic, humorous and emotional.

  We found that nearly all the scenes of *Frozen (2013)*’s movie trailer embed strong entertaining elements. For example, dialogue is full of irony jokes. Life-threatening conditions emerge continually. Eventually, characters reveal their true affection to each other. Throughout the whole video, the trailer keeps exposing intense plots to tickle the audience.

---

7 A fiction story includes that one or more main characters (protagonists) try to solve a problem in their lives (Creech & Bhavnagri, 2002).
**Req2-4**: The video ends with a cliffhanger (reserve the ending of the story).

In Frozen (2013) trailer, we basically learned that several characters strive to dispel the magic of eternal winter, face many thrilling situations and even stand on the verge of death. However, the trailer does not tell us whether ultimately those characters succeed or not. The true resolution is only available in the full movie.

**Req2-5**: The video has eye-catching characters.

One news website attributes the success of Frozen (2013) to the variety of characters each of whom has distinct personality. Protagonists’ feminism, sisterhood and selfless contribution have fascinated global young children (2017 Festive Productions, 2016). Its trailer encompasses the best moments of the movie which soundly portray the traits of each character and makes them impressive to the audience.

**Req2-6**: The video has exciting background music.

There are two songs used as background music in Frozen (2013) trailer. One is Vassy-We Are Young, and the other is New Politics - Harlem. Both songs are uplifting and have official music videos in which actors are cheering and dancing happily.

**Req2-7**: The voice-over makes the theme appear mysterious to the audience.

At the beginning, the voice-over said: “Summer, in the city of Arendelle… It couldn't be warmer, it couldn't be sunnier, but that's about to change...Forever...” The voice-over implies a potential danger is approaching to this beautiful summer of Arendelle, while he does not give any further hints.

3.2.3. **Req3**: N.V has to possess more pedagogical value than O.V does.

Req3 represents the main expected contribution of our project: to create a prosocial video with higher pedagogical values for people of all ages. The higher the pedagogical values are, the higher the willingness for the viewers to take desired prosocial actions. We define the pedagogical values according to two contexts which we illustrate in Figure 4.

We assumed that N.V has different approaches to reach adults (people above 18) and
children (people under 18) once it is uploaded on YouTube. For adults, the lion’s share of YouTube users, we can expose N.V to them directly on YouTube and thereby we make ourselves take the role of educators. In this context, we equated the pedagogical value with the viewers’ intention to visit the official website of The Blue Economy after watching N.V. We believe it is important to drive viewers to the official site which has the most complete and decent learning resource of The Blue Economy. As for children, we supposed that primary school teachers may download our N.V and show it in their classrooms to introduce The Blue Economy. Under this circumstance, we set the pedagogical value as viewers’ willingness to use N.V as a teaching tool.

Considering these two use cases, we developed two sub-requirements for Req3:

- **Req3-1**: Compared with O.V, N.V has to arouse higher motivation of adults to visit the official website of The Blue Economy.
- **Req3-2**: Compared with O.V, N.V has to provoke higher willingness of educators to use it to teach elementary students about The Blue Economy.

![Context 1](image1.png)

*Context 1 The viewer visits the official website after watching N.V.*

![Context 2](image2.png)

*Context 2 The viewer brings N.V in the classroom after watching N.V.*

Figure 4. Two use cases of N.V
In section 3.2, Requirement Definition, we meticulously describe how we developed each requirement. Before proceeding to the next stage, Design, we can take a look at Table 3 and Figure 5, both of which give a summary of this section.

Table 2.

Summary of the main and subordinate requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Req1</td>
<td>N.V has to convey the same information as the O.V does.</td>
</tr>
<tr>
<td>Req1-1</td>
<td>N.V has to declare: The Green Economy is not perfect.</td>
</tr>
<tr>
<td>Req1-2</td>
<td>N.V has to use a coffee grounds example to illustrate the concept of The Blue Economy.</td>
</tr>
<tr>
<td>Req1-3</td>
<td>N.V has to declare: Entrepreneurs of The Blue Economy can create a better world than The Green Economy does.</td>
</tr>
<tr>
<td>Req1-4</td>
<td>The purpose of the N.V is to promote The Blue Economy.</td>
</tr>
<tr>
<td>Req2</td>
<td>N.V has to exhibit MTCs.</td>
</tr>
<tr>
<td>Req2-1</td>
<td>N.V mainly talks about a fiction story.</td>
</tr>
<tr>
<td>Req2-2</td>
<td>Scenes in N.V changes dynamically in terms of time and space.</td>
</tr>
<tr>
<td>Req2-3</td>
<td>N.V provides many entertaining scenes, such as dramatic, humorous and emotional.</td>
</tr>
<tr>
<td>Req2-4</td>
<td>N.V reserves the ending of the story.</td>
</tr>
<tr>
<td>Req2-5</td>
<td>N.V has eye-catching characters.</td>
</tr>
<tr>
<td>Req2-6</td>
<td>N.V has exciting background music.</td>
</tr>
<tr>
<td>Req2-7</td>
<td>The voice-over of N.V makes the theme appear mysterious to the audience.</td>
</tr>
<tr>
<td>Req3</td>
<td>N.V has to possess more pedagogical value than O.V does.</td>
</tr>
<tr>
<td>Req3-1</td>
<td>Compared with O.V, N.V has to arouse higher motivation of adults to visit the official website of The Blue Economy.</td>
</tr>
<tr>
<td>Req3-2</td>
<td>Compared with O.V, N.V has to provoke higher willingness of educators to use it to teach elementary students about The Blue Economy.</td>
</tr>
</tbody>
</table>
3.3. Stage Two: Design

At Design stage, we created the ideas for N.V based on the requirements we constructed at the prior stage. Below, we give a brief view of the final ideas. We depict the full ideas in Appendix B which is the video scripts for N.V. In the following sections, we will explain how our ideas can fairly respond to all the requirements.

- **Title**: David and The Blue Economy

- **Characters**

  **Main character**
  <David>an ambitious new journalist in a news agency specialized in the ideas for sustainable future. David is in charge of exploring good ideas from The Green Economy.

  **Supporting characters**
  <Mother Earth> a female avatar of the mother nature. Mother Earth tries to save David from his career crisis caused by deficient ideas of The Green Economy.

  <Coffee Entrepreneur> a burly-looking farmer. The coffee entrepreneur brings David to the world of The Blue Economy.

  **Minor characters**
  <David’s coworkers and citizens in the world of The Blue Economy>
• **Setting**

In 21st century, mankind is facing various global issues of unsustainability. David is a young fresh graduate who is eager to join mass media to promote sustainable development in his country. Although he happily starts this journalist career in a news agency suiting his vision, his boss designates a super difficult task to him: finding a truly good idea from The Green Economy.

• **Problem and Conflict**

From one of his coworkers, David realized that it is impossible to find an acceptable idea from The Green Economy. What’s worse is that his boss threatens to fire him if he cannot give one idea as soon as possible.

• **Plot or Text Structure**

David works hard to collect workable ideas. However, he always fails because there is no perfect idea in the practice of The Green Economy. When David is extremely desperate, Mother Earth shows up and uses her magic power to teleport with David to where the coffee entrepreneur is.

• **Clue of Solution**

Mother Earth and the coffee entrepreneur jointly give David a mini-adventure to quickly experience the whole mechanism of the coffee case. After understanding how Blue Economy can make miracle, David seems ready to explore all the cases of The Blue Economy to save his career.

• **Point of View**

The narrator is telling the story

• **Theme**

The Blue Economy can create a sustainable future through a smarter way, please visit the website to lift the veil of its mysterious power.
3.3.1. Design for Req1

As pointed out in section 3.2, Req1 is: N.V has to convey the same information as the O.V does. Below, we match our design to the requirements one by one.

- **Req1-1**: N.V has to declare: The Green Economy is not perfect.
  
  **Design 1-1**: David’s career crisis comes from the imperfectness of The Green Economy’s ideas. In spite of his effort, all the ideas he found are not qualified from the perspective of sustainable development. The story implies The Green Economy has flaws.

- **Req1-2**: N.V has to use a coffee grounds example to illustrate the concept of The Blue Economy.
  
  **Design 1-2**: Mother Earth and the coffee entrepreneur bring David to a field trip in which the coffee entrepreneur demonstrates how coffee grounds can create a sustainable business model. These plots together form an example which illustrates The Blue Economy.

- **Req1-3**: N.V has to declare: Entrepreneurs of The Blue Economy can create a better world than The Green Economy does.
  
  **Design 1-3**: David complains about the difficulty arising from The Green Economy. Conversely, after David visits the world of The Blue Economy, he is so inspired and give a very genuine compliment to the coffee entrepreneur. We can see a contrast between David’s reactions before and after he knows The Blue Economy.

- **Req1-4**: The purpose of the N.V is to promote The Blue Economy.
  
  **Design 1-4**: In the last half of N.V, characters always mention The Blue Economy in a pleasantly-surprised tone. David even stands on a cliff and shout “welcome to the world of The Blue Economy”. Finally, the last frame gives the link to the official website of The Blue Economy. By doing so, N.V can persuade the audience to believe in The Blue Economy.

3.3.2. Design for Req2

Req2 of N.V is that it has to exhibit seven MTCs. As follows, we elucidate how we equipped N.V with each MTC.
Req2-1: N.V mainly talks about a fiction story.

Design 2-1: We put the brief view of N.V’s main idea at the beginning of this section. The idea is comprised of all the elements of a fiction story. Every piece of information from O.V is waved into the storyline. For example, O.V states that solar power consumes huge public financial resource. In N.V, David regrets to propose to his boss to report solar power because he knows that solar power actually is a big tax eater.

Req2-2: Scenes in N.V change dynamically in terms of time and space.

Design 2-2: We put 55 scenes and 10 flash cards in N.V which lasts for 260 seconds. On average, each scene only stays four seconds. By contrast, O.V has 11 scenes during 200 seconds each of which remains around 18 seconds.

Req2-3: N.V provides many entertaining scenes, such as dramatic, humorous and emotional.

Design 2-3: O.V gives audience a happy and light-hearted tone throughout the whole video. In contrast, David in N.V always experiences very extreme emotion, such as excited, desperate, frightened and surprised. In addition, we added plentiful jokes and exaggerated facial expressions in N.V to increase the entertaining effects.

Req2-4: N.V reserves the ending of the story.

Design 2-4: We ended up N.V with a scene in which David is ready to explore more ideas of The Blue Economy. In result, the audience do not know if he starts his adventure.

Req2-5: N.V has eye-catching characters.

Design 2-5: O.V is a simple slide show comprised of black and white icons. In contrast, we used the assets of a famous online animated video software—Go Animate. Figure 3.3.2-1 exhibits the difference of characters design between two videos.

Req2-6: N.V has exciting background music.

Design 2-6: We chose three songs as N.V’s background music. All of them have delightful melody which creates buoyant mood.
• **Req2-7:** The voice-over of N.V makes the theme appear mysterious to the audience.

**Design2-7:** The narrator of O.V thoroughly explains the concepts of The Blue Economy. However, the voice-over in N.V only gives the opening of plots and pops the questions.

### 3.3.3. Design for Req3

There is no additional design for Req3, which obliges N.V to surpass O.V in terms of the pedagogical values perceived by adult users of YouTube. In other words, Req3 is a stipulation concerning N.V’s performance. In our project, we assumed that pedagogical values will increase on account of the MTCs. Since we already added MTCs in N.V through Design2-1 to 2-7, what we need to do for Req3 is to let the audience measure the pedagogical values of two videos at the last stage-Testing.

### 3.4. Stage Three: Implementation

At Implementation stage, we made a video as a prototype of N.V based on the output of Design stage. We collected the most suited tools and materials within our time and budget to produce N.V. Table3 shows the resource we utilized at this stage which includes software, visual materials and audio materials. After we finalized N.V, we uploaded it on YouTube and kept it private. Only the project staffs can access N.V on YouTube.

**Table 3.**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Materials</strong></td>
<td></td>
</tr>
<tr>
<td>Animated visual materials: characters, backgrounds and props</td>
<td>Assets library of Go Animate</td>
</tr>
<tr>
<td>Audio materials: dubbing</td>
<td>Voice actors</td>
</tr>
<tr>
<td>Audio materials: background music and sound effects</td>
<td>Audio library of YouTube</td>
</tr>
<tr>
<td><strong>Tools</strong></td>
<td></td>
</tr>
<tr>
<td>Audio editing</td>
<td>Adobe Audition CC</td>
</tr>
<tr>
<td>Final integration editing</td>
<td>Adobe Premiere CC</td>
</tr>
</tbody>
</table>

### 3.4.1. Animated Visual Materials

With abundant templates and custom functions in Go Animate, we created characters,
backgrounds and props which best interpret the script of N.V. Figure 6 is an example of the visual materials we eventually adopted. We put all the key frames in Appendix C.

Figure 6. Visual design of main and supporting characters (from right to left: David, Coffee entrepreneur and Mother Earth.)

3.4.2. Audio Materials: Dubbing

We invited ten English-speakers to be our voice actors including male and female. Most voice recording is done with a sound recorder application in a spacious and noiseless classroom. If necessary, we repeated the recording to ensure the sufficient quality. In addition, after each recording, we reduced the noise and reverb with Adobe Audition CC.

3.4.3. Audio materials: Background Music and Sound Effect

We downloaded background music and sound effects from Audio library of YouTube only for academic purposes and credited the copyright in a legally right way.

3.5. Stage Four: Testing

At this stage, we conducted three one-hour experiments with a questionnaire to verify if N.V satisfies the three clusters of requirements we built up at the first stage. The first experiment (Exp1) endeavors to verify Req1 and Req2, and both the second and the third experiments (Exp2 and Exp3) are for Req3. The complete list of main and subordinate requirements is available at the end of section 3.2. Allowed by time and budget, we carried out the test as personal interview survey in the light of controlling the quality of data from each participant. We depicted the schematic testing procedure in Figure 7.
To imitate the scenario that a YouTube user access O.V and N.V, we encouraged the participants to use their own devices with which they usually watch YouTube to participate our experiments. By creating the most realistic environment for each participant, we believed we were able to obtain more accurate response.

The ultimate goal of our project is to measure how adult users of YouTube would perceive the pedagogical values of O.V and N.V. Therefore, so we selected 70 YouTube users aged above 20 to participate our experiments. Fifteen attendants joined in Exp1, 25 and 30 people attended Exp2 and Exp3 respectively. We limited our targets to be English speakers because both O.V and N.V were dubbed in English. Although most participants do not work in formal education system, each of them holds at least a bachelor degree which is required to be an elementary school teacher. In addition, we tried to involve people worldwide to increase the diversity which is important for research generalization. In Appendix E, we show the demography data of participants.

Participants of three experiments have to watch O.V and N.V but completing different questionnaires. The questionnaires are comprised of questions deliberately designed for assessing if N.V fulfills every requirement (Principal Test) and investigating reasons behind the success or failure (Supportive Test). For rating questions in the questionnaires, we used Likert scale. We draw an outline of relationship among tests and requirements in Figure 8. Full versions of three questionnaires are available in Appendix D1, D2 and D3. Note that inside the questionnaires, we refer O.V as Video One and N.V as Video Two. From section 3.5.1, we take a closer look at each experiment to explain how we established all the questions and will clarify how we intended to interpret the results in the next chapter.
Figure 7. Schematic testing procedure

Exp1 Process: from the participant’s perspective

1. Sign the experiment consent form
2. Obtain the YouTube links of N.V. and O.V. from the experimenter
3. Watch O.V. and N.V
4. Complete the questionnaire designed for Req1 and Req2
5. Receive the electronic copy of experiment consent form

Exp2 Process: from the participant’s perspective

1. Sign the experiment consent form
2. Obtain the YouTube links of N.V. and O.V. from the experimenter
3. Watch O.V. and N.V
4. Complete the questionnaire designed for Req3-1
5. Take a quick interview
6. Receive the electronic copy of experiment consent form

Exp3 Process: from the participant’s perspective

1. Sign the experiment consent form
2. Obtain the YouTube links of N.V. and O.V. from the experimenter
3. Watch O.V. and N.V
4. Complete the questionnaire designed for Req3-2
5. Take a quick interview
6. Receive the electronic copy of experiment consent form
3.5.1. Exp1 Questionnaire

In Exp1, the questionnaire is made up of two parts. The first part called Contents Checking set up for Req1, seeks to reckon the information similarity between O.V and N.V. Hence, we asked participants to gauge how clearly O.V and N.V convey the four pieces of information specified in Req1-1, Req1-2, Req1-3 and Req1-4 (as shown in Appendix D1). We raised Req1-1 as an example. Initially, participants had to rate how strongly O.V delivers the message: The Green Economy is not perfect. Later, we threw the same question again for N.V. For this message, the closer the ratings between two videos are, the more similar their contents are. We used four paired t-test to verify that N.V includes exactly the same pieces of information with O.V.

As for the second part of Exp1, we tested if N.V satisfies Req2. As Req2 states, N.V has to possess seven MTCs (i.e. R2-1, R2-2, R2-3, R2-4, R2-5, R2-6, and 2-7) while O.V should have none of them. Thus, we instructed participants to indicate how strong each characteristic is in O.V and N.V. We take Req2-1 as an instance: participants need to judge if there is a fiction story in O.V and N.V. For this characteristic (R2-1), the more divergent the
ratings between two videos, the more obvious a characteristic is either in O.V or in N.V. We accomplished seven paired T-test to verify that MTCs of N.V are more distinct in than those in O.V.

3.5.2. Exp2 Questionnaire and Exp3 Questionnaires

After going through details of Exp1, now we move on to the Exp2 and Exp3 which devised for Req3-1 and Req3-2 respectively. Exp2 and Exp3 focus on examining how participants perceive the pedagogical value of two videos. The difference between Exp2 and Ex3 lies in the participants’ mentality we shaped purposely. In Exp2, participants just gave their response as a normal adult user of YouTube. While in Exp3, participants assumed they are teachers of children under 10. At the beginning of both Exp2 and Exp3 is the same group of questions (TestA-1~TestA-5 and Test3-1) which measure participants’ level of engagement on O.V and N.V. We used 12 sample z-test to investigate whether any kind of engagement is higher on O.V or N.V. In Exp3, we added one more question on which participants expressed their tendency to use O.V or N.V as a teaching material for young students.

After comparing the performance of O.V and N.V, we dug into the questions: how each MTC influences the pedagogical values of O.V and N.V to the participants. As presented in the Appendix D2 and Appendix D3, we placed similar questions in Exp2 and Exp3 but questions are adapted to different scenarios. We took TestB-1 and TestC-1 as one example:

[TestB-1] Video Two delivers a fiction story while Video One doesn’t.
*A fiction story should include: A main character (protagonist) who tries to solve a problem in his life.
How does this affect your feeling toward two videos?
“Attractive” here means how likely the video makes you to visit the official website of The Blue Economy.

☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.
Video Two delivers a fiction story while Video One doesn’t.

*A fiction story should include: A main character (protagonist) who tries to solve a problem in his life.

How does this affect your feeling toward two videos?

“Attractive” here means that you think kids may like it.

☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.

In Exp2, we substituted attractiveness for the pedagogical value and defined the attractiveness as “the intention to visit the official website of The Blue Economy”. As to Exp3, the attractiveness means the willingness to show the video to children. Finally, the remaining are a general information form and an open question which inquires of overall comments on N.V.

3.5.3. Testing Limitations

From our pilot experiments, we identified several potential limitations on our test plan. All the limitations result from the balance between quantity and quality. We were eager to collect data of people from diverse background. First of all, in spite of our intention of getting deeper feedback from each participant, there is only one experimenter in our project. We could only allocate one hour at most to each experiment. This causes the problem that we only can calculate the influence level of each MTC while ignoring the reasons behind the results. Fortunately, the interview data can be a relevant material for final evaluation.

The second concern also arises from the restricted time resource. We made the participants watch O.V and N.V only twice. They might focus more on understanding the logic of the videos and pay fewer attention to the MTCs. When filling out the questionnaires, some participants asked for more time to recall. Inevitably, this could cause recall bias.

The last downside factor regarding the testing is the sample selection of Exp3. An ideal
option is to do the experiments with real primary school teachers who can apply O.V and N.V in their classrooms. However, considering the generality of results in this project, we decided to give higher weight on the diversity of demography instead of digging into few single cases. Therefore, we asked the diverse participants to assume they are primary school teachers.
4. Testing Result

At Testing stage, we collected data to check N.V against three clusters of requirements. In this chapter, we present the summaries of statistical analysis results. We chose Excel to be our analysis tool. We place raw data and the statistical analysis in Appendix E. In the following sections, we display the meaning of hypothesis, parameters and numerical results of each test. The naming of tests corresponds to the requirement number. For example, Test1-1 is used to test Req1-1.

4.1. Exp1 Testing Results (for Req1 and Req2)

4.1.1. Tests for Req1

In the first part of Exp1: Video Contents Checking, participants used a scale from one to five to indicate how strong they felt the presence of each piece of information (see Req1-1, Req1-2, Req1-3 and Req1-4) is in O.V and N.V respectively. We performed the two-tailed paired t-test at the $\alpha = 0.05$ level to verify that each piece of information is equally highlighted by both videos. Therefore, the hypothesized mean difference is zero. If the p-value is larger than 0.05, we can conclude a piece of information is similarly addressed by two videos. Table 4 presents the results from Test1-1 to Test 1-4.

<table>
<thead>
<tr>
<th>Test No.</th>
<th>O.V M</th>
<th>O.V SD</th>
<th>N.V M</th>
<th>N.V SD</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test1-1 (Info1 strength)</td>
<td>4.53</td>
<td>0.64</td>
<td>4.20</td>
<td>1.01</td>
<td>2.09</td>
</tr>
<tr>
<td>Test1-2 (Info2 strength)</td>
<td>4.27</td>
<td>0.70</td>
<td>4.20</td>
<td>0.86</td>
<td>0.37</td>
</tr>
<tr>
<td>Test1-3 (Info3 strength)</td>
<td>4.53</td>
<td>0.83</td>
<td>4.33</td>
<td>0.62</td>
<td>0.82</td>
</tr>
<tr>
<td>Test1-4 (Info4 strength)</td>
<td>4.47</td>
<td>0.83</td>
<td>4.47</td>
<td>0.52</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Note1: The strength of each piece of information is measured on a five-point scale with “1” being least felt, “3” being neutral and “5” being most felt.

Note2: *p<0.05

From Table 4, we can see that all the mean values of felt strength are evidently higher than three, which means that all the pieces of information are firmly embedded in two videos.
Moreover, no p-value is lower than 0.05, which means that there is no significant difference between the main messages conveyed by O.V and N.V, t(14)=2.154, p>0.05. As a result, we can conclude that N.V successfully meets the first cluster of requirements.

4.1.2. Tests for Req2

We tested Req2 in the second part of Exp1: Video Characteristics Checking. On a scale of one to five, participants rated their perceived prominence of each MTC (see from Req2-1 to Req2-7) in O.V and N.V respectively. We performed the one-tailed paired t-test at the α = 0.05 level to verify that two videos dissimilarly evince each MTC. The hypothesized mean difference is zero. If the p-value is smaller than 0.05, we can confirm N.V exhibits stronger movie trailer characteristic than O.V does. Table 5 shows the results from Test2-1 to Test2-7.

Table 5.

<table>
<thead>
<tr>
<th>Test No.</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test2-1 (MTC1 prominence)</td>
<td>4.40</td>
<td>0.91</td>
<td>1.80</td>
<td>0.68</td>
<td>9.54*</td>
</tr>
<tr>
<td>Test2-3 (MTC3 prominence)</td>
<td>4.33</td>
<td>0.82</td>
<td>2.40</td>
<td>0.91</td>
<td>5.85*</td>
</tr>
<tr>
<td>Test2-4 (MTC4 prominence)</td>
<td>4.00</td>
<td>1.20</td>
<td>1.73</td>
<td>1.16</td>
<td>4.60*</td>
</tr>
<tr>
<td>Test2-5 (MTC5 prominence)</td>
<td>4.13</td>
<td>0.92</td>
<td>2.53</td>
<td>1.19</td>
<td>4.12*</td>
</tr>
<tr>
<td>Test2-6 (MTC6 prominence)</td>
<td>4.13</td>
<td>0.99</td>
<td>2.27</td>
<td>1.22</td>
<td>4.19*</td>
</tr>
<tr>
<td>Test2-7 (MTC7 prominence)</td>
<td>3.60</td>
<td>1.18</td>
<td>2.93</td>
<td>0.96</td>
<td>1.78*</td>
</tr>
</tbody>
</table>

Test No.

| Test2-2 (MTC8 prominence) | O.V | N.V | M   | SD  | 2.45*  |

Note1: The prominence of each MTC is measured on a five-point scale with “1” being least sensible, “3” being neutral and “5” being most sensible.

Note2: *p<0.05

Note3: In Test2-2, we measured the level of continuity in two videos instead of dynamic degree. By doing so, the participants can understand the question more easily. Therefore, we expected O.V will get higher mean value in this test.

In Table 5, all the mean values of perceived prominence are significantly higher at N.V side except for Test2-2 in which we purposely conversed the question for better comprehension. The p-value in these seven tests are lower than 0.05. Thus, we can say that
N.V significantly express more obvious MTCs than O.V does, t(14)=1.761, p<0.05.

Consequently, we affirmed that N.V satisfies the second cluster of requirements.

4.2. Exp2 and Exp3 Testing Results

4.2.1. Tests for General Attitude and Req3-1

Exp2 and Exp3 have the same group of questions investigating if participants would engage with two videos through YouTube features such as pressing Like. We aggregated the data of 55 people from two experiments to perform the one-tailed one sample z-test at the $\alpha = 0.05$ level. We attempted to verify the mean value of the possibility is higher than neutral value (=three), so we assumed the hypothesized mean value is above three. If the p-value is smaller than 0.05, we can be sure that participants will likely interact with either O.V or N.V through a certain feature. Table 6 and Table 7 exhibit the results of six features.

Table 6.

<table>
<thead>
<tr>
<th>Activity</th>
<th>M</th>
<th>SD</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test A-1 Like</td>
<td>3.07</td>
<td>1.26</td>
<td>0.34</td>
</tr>
<tr>
<td>Test A-2 Favorite</td>
<td>2.22</td>
<td>0.91</td>
<td>1.00</td>
</tr>
<tr>
<td>Test A-3 Comment</td>
<td>1.82</td>
<td>0.85</td>
<td>1.00</td>
</tr>
<tr>
<td>Test A-4 Subscribe</td>
<td>2.33</td>
<td>1.10</td>
<td>1.00</td>
</tr>
<tr>
<td>Test A-5 Share</td>
<td>2.95</td>
<td>1.23</td>
<td>0.63</td>
</tr>
<tr>
<td>Test3-1 Visit</td>
<td>3.60</td>
<td>1.04</td>
<td>0.00*</td>
</tr>
</tbody>
</table>

*Note1: The possibility of doing each activity is measured on a five-point scale with “1” being least possible, “3” being neutral and “5” being most possible.

*Note2: *p<0.05
Table 7.

Results of One Sample z-test for Possibility of YouTube Engagement Activity in N.V

<table>
<thead>
<tr>
<th>Activity</th>
<th>M</th>
<th>SD</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test A-1 Like</td>
<td>2.91</td>
<td>1.30</td>
<td>0.70</td>
</tr>
<tr>
<td>Test A-2 Favorite</td>
<td>2.07</td>
<td>1.11</td>
<td>1.00</td>
</tr>
<tr>
<td>Test A-3 Comment</td>
<td>1.98</td>
<td>1.05</td>
<td>1.00</td>
</tr>
<tr>
<td>Test A-4 Subscribe</td>
<td>2.09</td>
<td>1.07</td>
<td>1.00</td>
</tr>
<tr>
<td>Test A-5 Share</td>
<td>2.56</td>
<td>1.20</td>
<td>1.00</td>
</tr>
<tr>
<td>Test3-1 Visit</td>
<td>3.20</td>
<td>1.13</td>
<td>0.10</td>
</tr>
</tbody>
</table>

*Note1:* The possibility of doing each activity is measured on a five-point scale with “1” being least possible, “3” being neutral and “5” being most possible.

*Note2:* *p*<0.05

From Table 6 and Table 7, we see that neither O.V nor N.V can significantly invoke any engagement activity except for “visit the official website of The Blue Economy after watching O.V”, z=1.645, *p*>0.05. That is to say O.V significantly surpasses N.V in the capability of drawing traffic to the relevant website (the first pedagogical value). Given this question is for Req3-1, we regretfully admit that N.V does not satisfy Req3-1.

As for confounding factors, after analyzing six demographic factors, we did not detect any significantly confounding results of Test3-1. There are two reasons. One is the factors, such as gender and level of interest in sustainability-themed videos, do not have significant influence and the other reason is the high homogeneity among groups (See Appendix E).

4.2.2. Test for Req3-2

Only participants of Exp3 had to answer the question for verifying Req3-2 (Test3-2). Thirty participants used the scale of one to five to tell which video they are inclined to take as an educational tool for elementary school students, with one being extremely in favor of O.V and five being definitely in favor of N.V. We performed the one-tailed one sample t-test at the α = 0.05 level. If N.V is more favored by participants, the mean value should be significantly larger than three. In result, if the p-value is smaller than 0.05, we are convinced to say N.V is more suitable for teaching children about The Blue Economy than O.V is. The testing results
reveal that participants are significantly supported N.V to be the learning materials in primary school classrooms (M=4.23, SD=0.82), t(29)=1.7, p<0.05. Therefore, N.V can be considered successful for accomplishing Req3-2. Likewise, we did not observe any demographic factor which significantly confounds results of Test3-2 for the same reasons explained in the end of section 4.2.1.

4.2.3. Tests for MTCs Influence on the Relative Pedagogical Value of N.V

After expressing an overall attitude toward two videos, participants then indicated how each MTC influences the attractiveness of N.V relative to O.V. We replace “pedagogical values” with the term “attractiveness”, which is much easier to understand. In Exp2, the attractiveness is interpreted as the motivation to visit the official website of The Blue Economy. On the other hand, Exp3 defines the attractiveness as an intention to integrate N.V into classrooms of children. Seven MTCs correspond to seven questions each of which has five possible answers. We asked participants to give a value from one to five to indicate the level of positive influence MTCs have on their perception on N.V. Take first movie trailer characteristic (MTC1) as an example:

<table>
<thead>
<tr>
<th>[Test B-1] Question: Video Two delivers a fiction story while Video One doesn’t. How does this affect your choice between two videos? Value of influence for each answer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 This definitely makes Video Two more attractive than Video One.</td>
</tr>
<tr>
<td>4 This probably makes Video Two more attractive than Video One.</td>
</tr>
<tr>
<td>3 This doesn’t have influence.</td>
</tr>
<tr>
<td>2 This probably makes Video Two less attractive than Video One.</td>
</tr>
<tr>
<td>1 This definitely makes Video Two less attractive than Video One.</td>
</tr>
</tbody>
</table>

We performed one-tailed one sample t-test at the α = 0.05 level. We aimed to prove the mean value of the influence is higher than neutral value(=three), so we assumed the hypothesized mean value is above three. If the p-value is lower than 0.05, we can assert that the movie trailer characteristic has drawn more positive attention to N.V. Table 8 and Table 9
show the results of Exp2 and Exp3.

Table 8.

Results of One Sample t-test for Influence of MTC on N.V in Exp2

<table>
<thead>
<tr>
<th>Influence on N.V</th>
<th>M</th>
<th>SD</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>TestB-1 MTC1</td>
<td>3.32</td>
<td>1.38</td>
<td>1.16</td>
</tr>
<tr>
<td>TestB-2 MTC2</td>
<td>2.56</td>
<td>0.87</td>
<td>-2.53</td>
</tr>
<tr>
<td>TestB-3 MTC3</td>
<td>3.44</td>
<td>1.29</td>
<td>1.70</td>
</tr>
<tr>
<td>TestB-4 MTC4</td>
<td>3.24</td>
<td>0.83</td>
<td>1.44</td>
</tr>
<tr>
<td>TestB-5 MTC5</td>
<td>3.48</td>
<td>1.26</td>
<td>1.90*</td>
</tr>
<tr>
<td>TestB-6 MTC6</td>
<td>3.36</td>
<td>1.19</td>
<td>1.52</td>
</tr>
<tr>
<td>TestB-7 MTC7</td>
<td>3.04</td>
<td>0.68</td>
<td>0.30</td>
</tr>
</tbody>
</table>

*Note1: The influence of each MTC is measured on a five-point scale with “1” being least strong, “3” being neutral and “5” being most strong.
*Note2: *p<0.05

Table 9.

Results of One Sample t-test for Influence of MTC on N.V in Exp3

<table>
<thead>
<tr>
<th>Influence on N.V</th>
<th>M</th>
<th>SD</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>TestC-1 MTC1</td>
<td>4.17</td>
<td>0.65</td>
<td>9.87*</td>
</tr>
<tr>
<td>TestC-2 MTC2</td>
<td>3.10</td>
<td>0.96</td>
<td>0.57</td>
</tr>
<tr>
<td>TestC-3 MTC3</td>
<td>4.53</td>
<td>0.57</td>
<td>14.70*</td>
</tr>
<tr>
<td>TestC-4 MTC4</td>
<td>3.80</td>
<td>0.66</td>
<td>6.60*</td>
</tr>
<tr>
<td>TestC-5 MTC5</td>
<td>4.27</td>
<td>0.74</td>
<td>9.38*</td>
</tr>
<tr>
<td>TestC-6 MTC6</td>
<td>3.83</td>
<td>0.91</td>
<td>5.00*</td>
</tr>
<tr>
<td>TestC-7 MTC7</td>
<td>3.30</td>
<td>0.84</td>
<td>1.96*</td>
</tr>
</tbody>
</table>

*Note1: The influence of each MTC is measured on a five-point scale with “1” being least strong, “3” being neutral and “5” being most strong.
*Note2: *p<0.05

In Exp2, we noticed that only MTC5 are significantly effective in increasing N.V’s attractiveness among participants, t(24)=1.71, p<0.05. By contrast, MTC2 significantly downgraded the attractiveness of N.V, t(24)=1.71, p<0.05. Conditions completely changed in Exp3. MTCs in Exp3, except for MTC2, significantly captivated participants when assuming
themselves as educators in primary schools, \( t(29)=1.70, p<0.05 \). We did additional inspection on the data of Exp3 and we found the mean values of MTC3 and MTC5 even significantly exceed four, \( t(29)=1.70, p<0.05 \).

4.3. Overall Comments on N.V

There are an opening question and a quick interview at the end of Exp2 and Exp3. Participants either explained further how MTCs affected their impression or provided their opinions about strength or weakness of O.V and N.V. We display the highlights of the comments in the following two sections.

4.3.1. From the Perspective of YouTube Adult Users (25 participants)

Among all the comments, straightness of O.V was most broadly emphasized. Participants stressed that they appreciated the seriousness, simplicity, clarity, directness and professional degree of information in O.V, which allowed them to easily grasp the concepts of The Blue Economy. For example, one of them said that the white canvas (O.V’s background) made connection between pieces of information much stronger. In sum, some factors of N.V, such as drama, characters and unnecessary scenes, were reported to be the distraction from understanding the core messages of The Blue Economy. For this group, these characteristics obviously blurred out N.V’s instructive information. A participant even directly expressed that N.V is too fancy.

In addition, several participants noted that N.V might not feed the appetite of adults. They regarded N.V as a cartoon video which is more suitable for kids. They did not think they would acquire knowledge from such animation. When watching N.V, they felt the tone of N.V was somewhat immature.

Oppositely, some people underlined that they were less interested in the scientific facts and the lecture in O.V. Instead, they preferred following the storyline in N.V to learn the topics. They responded that N.V was much funnier and made viewers feel curious about The
Blue Economy. Below are other suggestions, pros and cons especially brought up by few individual participants:

- N.V has multiple voices of characters. The conversations make N.V interesting.
- The fragmented nature of N.V and humorous ending pique viewers’ interest to explore more about The Blue Economy.
- Characters in N.V. arouse viewer’s sympathy.
- N.V is colorful and has adorable graphic design while O.V is monotone.
- The sound quality of N.V needs improvement.
- N.V has lengthy plots which is not relevant neither to the story nor to the main idea of The Blue Economy.
- N.V does not explicitly direct the viewers to the official website.

4.3.2. From the Perspective of Primary School Teachers (30 participants)

When participants had themselves stand on the shoes of pupil’s teachers, they gave completely different opinions. The majority of this group seemed to have a consensus that O.V’s information might be too abstruse for children to digest. In contrast to O.V’s rushed fashion, participants said N.V included fewer professional terminologies and disclosed the information in a slow manner. Aside from the simplified languages, participants also identified other appealing features of N.V which are able to keep children staying focused and engaged.

The most praised aspect of N.V is that it is a colorful animation with an embedded story. Several participants mentioned that colorful animation is children’s favored media format. Therefore, N.V is capable of catching children’s attention. What’s more, the presence of a story helps children comprehend better and leads to higher memory retention. Seeing characters’ life experiences, children will feel more connected because they can follow and identify with the main characters. A participant even said that N.V was similar to the works from the mainstream entertaining media targeting children and that the humor and music in
N.V were close to the taste of today’s children. In result, youngsters may experience a familiarity when watching N.V.

Even N.V is well embraced by this group; a small number of participants did raise up some concerns. Seeing the implicit messages in N.V, they feared that children might only laugh at the funny clips while not understanding the educational meaning behind. As for the rich visual elements in N.V, one participant said the chaotic visual elements made it difficult to remember the information. Contrarily, another person has a different opinion which declared the less coherent style kept children from being bored. One of the participants suggested that O.V and N.V could compensate for each other since one is informative and the other is entertaining.

As noted in the previous section, this group also mentioned similar points of N.V worth improving. We list some feedbacks and suggestions below.

- N.V spends too much time building up the setting.
- The voice volume should be more consistent.
- Sound and mouth movement do not match sometimes.
5. Evaluation

Our project addressed an unexplored academic field of short videos in the literature of Entertainment-Education strategy as we pointed out at the end of Chapter two (Related Work). We sought to prove that MTCs can add more pedagogical values on the prosocial videos on YouTube. To achieve this objective, we went through an engineering process. Overall, we equipped an existing prosocial video from YouTube (O.V) with seven major MTCs of Animation and Family movie genre. After completing the new video (N.V), we did experiments with adult users of YouTube to measure the difference in the pedagogical values between two videos: O.V and N.V. The testing results indicate that our project goals are partially fulfilled since N.V is considered as an appropriate teaching material for children but not suitable for adults.

At very beginning of technical process, we set three requirements: Req1, Req2, and Req3, which N.V was expected to satisfy. According to the test results displayed in section 4.1, we are confident to say N.V satisfied Req1 and Req2 fairly well. As for Req3, N.V only fulfilled Req3-2 while did not pass Req3-1. What we can imply from these results is that MTCs of Animation and Family genre are applicable on the design of short prosocial videos for children.

Based on the assessment of pedagogical values done by our experiment participants, we examined the reasons behind the success and failure of N.V. Our findings suggest that MTCs may have positive or negative influence on N.V and the result depends which pedagogical value we set. Therefore, we carried out the evaluation of N.V according to the two definitions of pedagogical values in our project in the subsequent sections.

5.1. Evaluation on Movie Trailer Characteristics

In Exp2, the definition of pedagogical value is the capability of motivating adult viewers to visit the official website of The Blue Economy. Curiously, the overall response of Exp2 is quite contradictory to our forecast. MTC5, eye-catching characters, is the only one with result
favorably correlating with our initial prediction. Comments from participants about MTC5 highlight that they value the chance of empathizing with the characters, which is also consistent with the statements from Entertainment-Education strategy’s literature (Hoffhaus & Lubjuhn, 2010; Julia-Lena et al., 2014; Lacaya & Williams, 2008).

The remaining results of Exp2 are not so encouraging. The interview data reveals that the foremost downside of N.V is that it does not convey messages straightforwardly. It appears that adult audience need concise and comprehensive information when they watch short videos with prosocial and educational purposes. Actually, this outcome is fairly in line with the previous study conducted by Waters and Jones (2011). The two researchers suggested six rules for nonprofit organizations to make their YouTube videos:

1) Tell a story.
2) Be brief.
3) Keep simple and narrowly focused.
4) Make a story relevant to the audience.
5) Persuade the audience to take action at the end.
6) Be genuine.

Yet, these suggestions quite conflict with movie trailers’ non-self-contained and flashy nature. Initially, we assumed MTCs can tickle the audience’s curiosity and motivate them to explore more about the topic based on previous studies (Finsterwalder et al., 2012; Gibson, 2006; Jerrick, 2013; Maier, 2011; Marich, 2013; Yanagisawa et al., 2014). Surprisingly, their effects differed from our anticipation when they were embedded in a prosocial video. The audience seemed prone to feel confused when the scenes and information in N.V change rapidly. We believe it is the reason why the lower level of consistency (MTC2) is the least appreciated MTC in Exp2.

Apart from MTC2 and MTC5, other five MTCs are deemed to be non-significant in Exp2. Their middling performance may be attributed to their contribution to the vagueness of
The Blue Economy’s information in N.V’s. First, the drama and entertaining scenes were regarded redundant by participants since they were not explicitly relevant to the concepts of The Blue Economy. This argument is consistent with a prior study regarding college students’ reaction to YouTube videos in classrooms (Fleck et al., 2014). In addition, the story inside N.V is a fantasy which hardly made the adult viewers feel connected. This claim matches the fourth rule proposed by Waters and Jones (2011). Second, we did not tell a full story and the voice-over makes no clear prosocial appeal at the end of N.V. The mysterious style caused audience to conjecture the real purpose of N.V on their own. This is against the fifth rule in Waters and Jones (2011).

However, careful attention must be paid in declaring that story and entertaining scenes are unnecessary in prosocial videos for adult viewers. This declaration sounds paradoxical if we consider the past success which prosocial soap operas had on inspiring prosocial behavior. The most probable explanation is the genre of N.V does not suit the taste of adult viewers. We used Animation and Family movie genre to design N.V in order to cater to people of all ages. Despite the good intention, Animation and Family movie genre are not in the top five favorite movie genres among adults (Statista, 2016). This does concur with the fact that genre is the most decisive factor on the decision of movie consumption (Film Education, 2009; Finsterwalder et al., 2012; Jerrick, 2013).

This inference is very plausible after we examined the comments of the participants in two experiments. We observed a consistency in the opinions about N.V’s potential target audience. Both group of participants agreed that N.V mainly whets children’s appetite. Although some online articles identify the animation is embraced by the entire audience (Morgan, 2014), but a very possible situation is that most adults watch animation just to accompany their children (Robinson et al., 2012).

The cheering results of Exp3 also justifies the reason why genre accounts for N.V’s success and failure on Req3. The pedagogical value in Exp3 refers to N.V’s fitness to be the
educational materials for children. Nearly all the MTCs, except for MTC2, had significant positive influence on N.V. Many participants commented that they advocated N.V because they believed children love cartoon and animation.

The findings of Exp3 moderately corroborates the existing literature we discussed in Chapter two. We relate the participants’ comments to corresponding academic work in the Table 10. For the details of each MTC, please see the section 3.2.2.

Table 10.

<table>
<thead>
<tr>
<th>MTC</th>
<th>Comments</th>
<th>Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTC1</td>
<td>It will be easier for children to understand the video by</td>
<td>(Finsterwalder et al., 2012; Hoffhaus &amp; Lubjuhn, 2010; Julia-Lena et al., 2014; Lacaya &amp; Williams, 2008; Marich, 2013; Yanagisawa et al., 2014)</td>
</tr>
<tr>
<td></td>
<td>following a story.</td>
<td></td>
</tr>
<tr>
<td>MTC3</td>
<td>The humor in N.V catches children’s attention.</td>
<td>(Cruse, 2011; Film Education, 2009; Greenberg &amp; Zanetis, 2012)</td>
</tr>
<tr>
<td>MTC5</td>
<td>Interesting characters and their voice bring fun to children.</td>
<td>(Jerrick, 2013; Marich, 2013)</td>
</tr>
<tr>
<td>MTC6</td>
<td>The music creates a familiar and happy atmosphere with which</td>
<td>(Film Education, 2009; Finsterwalder et al., 2012; Garrett, 2012; Jerrick, 2013)</td>
</tr>
<tr>
<td></td>
<td>children can engage.</td>
<td></td>
</tr>
</tbody>
</table>

Though the results show the evident positive influence of MTC4 and MTC7, we hardly received any comments about these two characteristics. The reason behind this deficiency could be that it is not easy to find their direct influence on pedagogical values. Perhaps we can get the answers from extant knowledge. If we examine how MTC4 and MTC7 attracted the audience, it is reasonable to say the two together formed a prologue for later activities. MTC7 keeps giving the audience hints about the evolvement of the storyline while MTC4 just hides the story’s real ending. After watching, children might get curious about the true ending and wait for their teachers to unveil the full story. Actually, teachers of today often use videos at the beginning of classes to set stage for a follow-up discussion (Bonk, 2011; Bravo, Amante, Simo, Enache, & Fernandez, 2011; Burke & Snyder, 2008b; Fleck et al., 2014;
Greenberg & Zanetis, 2012; Jones & Cuthrell, 2011). It is still fairly acceptable to conclude that MTC4 and MTC7 could help setting up such stage.

While the influence of MTC2 was still not significantly positive in Exp3, at least it did not affect N.V’s attractiveness negatively. Some participants concerned that the rapidly-changing scenes may make it difficult for children to understand the messages inside N.V. Interestingly, several previous researches contended that children comprehend the visual contents fairly well even via montage (Jonassen, 2004). Moreover, one participant pointed out that the frequent-altering scenes could keep children absorbed. If we could inform the participants of this fact before Exp3, perhaps the MTC2 might get higher scores.

5.2. Evaluation on Unexpected Confounding Variables

Based on the analysis of interview transcripts, we observed several variables commonly mentioned by participants while we did not anticipate before the experiments. The first one is the genre, which we have already discussed in previous section. Audience of different ages have sundry preference on movie genres. This explains why N.V did not cater to the participants in Exp2. The second variable is video’s main color. A large number of participants suggested that children probably like colorful video more. This comment indeed accords with loads of existing studies (Zampollo, Kniffin, Wansink, & Shimizu, 2012). The third factor is the professional terminology. This claim seems rather self-evident, since O.V uses more scholarly words which could be a barrier for children. The final one is the sound quality. Few participants complained that the unstable sound volume worsened their impression on N.V.

5.3. Project Limitations

We aware that our project may have a number of limitations. Firstly, we only adopted one movie genre, Animation and Family, to make N.V. This genre does not take YouTube adult viewers’ fancy as Comedy and Action do, but we were only able to try a genre which is for all ages due to constrained time resource and Prof. Pauli’s intention. Hence, there are
some consequential confounding variables coming to light as listed in previous section, such as tone of the color, tone of the voice and professional level of information. The confounding effects might overshadow the influence brought by each MTC.

Second, we acknowledge that participants might difficulty judging some MTCs. It is conceivable that participants tended to focus on comprehending the messages while paying less attention on other aspects. Consequently, the influence of certain MTCs become so subliminal that participants could not articulate their attitudes toward some MTCs.

The last limitation we encountered is the background of our participants. This limitation has been already touched upon in section 3.5.3. Our project primarily measures the feasibility that N.V serves as a teaching tool in the classrooms of primary schools. Accordingly, we did not test N.V with elementary school teachers. Since we could not know how real educators and young students assess N.V as well as each MTC, it would be hard for us to affirm that MTC2 (dynamically-changing scenes) should be eliminated. It depends on how the educators apply N.V in the learning environment. MTC2 could be a plus if the educators manage to arouse students’ curiosity before their lectures.

5.4. Project Implications and Practical Applications

Overall, the testing results suggest that movie trailers could be a suitable entertainment type for TSOs to design their prosocial videos on YouTube. Specifically speaking, TSOs could utilize movie trailer characteristics of Animation and Family movie genre to produce prosocial videos for educators to teach children. Since our interviewee are from various countries and academic departments, we believe MTCs are also applicable on other prosocial topics. Nonetheless, we would like to remind that MTCs should be applied with caution.

When designing prosocial videos, especially the short ones, we have to plainly appeal our wanted prosocial action. By doing so, the audience can quickly and accurately grasp the purpose of videos. When we dynamic-editing (MTC2), we need to be sure the narrative flows smoothly without any unacceptable gap. Similarly, we can keep an implicit story ending
(MTC4) waiting to be explored, but then again, we must speak the prosocial messages out loud before the end of videos. Finally, voice-over (MTC7) is capable of taking the role not only in setting the premise but also announcing the prosocial messages in a concise and fast manner.

What is also noteworthy is that we should choose the movie genre based on our target audience. Movie genres have weighty influence on audience’s expectation and behavior. Many MTCs— the type of stories (MTC1), entertaining scenes (MTC3), characters and background music (MTC6)—would change substantially according to the genre selected. Therefore, it is important to design each MTC along with the preferred genre of target audience.

Note that we do not suggest to drop any MTC. If we abandon any MTC, it will be against the premise of this project which took seven MTCs as a whole. In other words, every MTC is indispensable. Therefore, even without significant influence, we still insist MTC2 remain in the design of videos.
6. Conclusion

In the digital era, many teachers have integrated online educational videos from YouTube into their classrooms. This ubiquity could boost the exposure of TSOs’ prosocial videos on YouTube to more younger students. To exploit the benefit of Entertainment Education, this project set out to prove that an entertainment type—movie trailers—could make TSOs’ YouTube videos more appealing to YouTube adult users and educators. We equipped an existing prosocial video (O.V) with movie trailer characteristics of Animation and Family movie genre and tested the perceived pedagogical values of the new video (N.V) with adult users of YouTube. In general, the findings suggest that movie trailer characteristics of Animation and Family movie genre are suitable for young students while not for adult viewers. Also, the testing results strongly point out that it is necessary for prosocial videos to convey the prosocial messages succinctly.

This is the first project, to our knowledge, attempting to apply a popular entertainment type to design prosocial videos. In spite of several limitations, we are still confident that our project has made both academic and practical contribution. For academia, our project accomplished an initial step to fill the knowledge gap in the literature of prosocial videos and E-E strategy. In practice, TSOs can consider movie trailers to be an ideal option on planning their next video on YouTube.

The findings of the current project are subject to three limitations. First, we only tried a single movie genre to make N.V. Other movie genres, such as comedy and action, may create higher pedagogical values perceived by adult viewers. Second, we had confounding variables which might surpass the MTCs’ effects on the perception of N.V, such as tone of the color, tone of the voice, and professional level of language. Finally, we did not interview real primary school teachers who may advance our understanding on the exact pedagogical values of N.V.

This project could serve as an incentive for future research regarding increasing the
effectiveness of prosocial videos. Here, we identify three opportunities. The first is exploring the feasibility of other movie genres. The second is investigating the possibility of other popular entertainment types on YouTube, such as How-to videos. The last one is cooperating with school teachers and even students. For TSOs, this could bring better understanding of educators’ true needs for educational videos on YouTube.
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8. Appendix

Appendix A Transcription of The Blue Economy. Mov
Appendix B Video Script of N.V
Appendix C Key Frames of N.V
Appendix D1 Questionnaire for Exp1
Appendix D2 Questionnaire for Exp1
Appendix D3 Questionnaire for Exp3
Appendix E1 Statistical Results of Exp1
Appendix E2 Statistical Results of Exp2 and Exp3
Appendix F Tables and Figures
#Frame 1

The simple show explains both blue economy.

#Frame 2

This is our planet. Of course, we want to preserve it for future generations and therefore we choose healthy and natural products, organic food, solar energy and biodegradable soaps. But all these goods cost more.

#Frame 3

Whatever is bad for your health and damages the environment is cheap. Whatever is good for your health and safety the environment is expensive. This Green Economy will be for the happy few, most of us cannot afford it.

#Frame 4

Worse, some stuff we thought is great for us and good for nature actually is not good at all. Bio soaps use palm oil from plantations that destroyed the rainforest. Solar energy depends for decades on subsidies which must be paid with tax money. Bioplastics compete with food organic food is shipped around the world damaging the climate. So it is not only expensive sometimes it is not smart even.
So, we have to be more creative to do it better. We must open our eyes to see what we've got. For example, here is our morning coffee. We really only use 0.2% of it. What do we do with the rest? Throw it away? We use it to grow mushrooms. Then feed the leftovers to animals. Animals make manure and bacteria make biogas from that. We thought it was only waste and now everyone who knows this can generate food energy and jobs. We like that and there are so many opportunities.

Once we see them, it is clear that we can convert poverty into development; scarcity into abundance.

If we can make the cake bigger, it is easier to share with everyone.

However, many people have good ideas. What we need are people who make it happen. We need these entrepreneurs. Actually, we need a whole generation of entrepreneurs. They do not care how the Apple calls down from the tree Newton figured that out hundreds of years ago. They want to know how the Apple got up in the tree in the first place defying the law of gravity.
These innovators think Mike David who beats Goliath without experience and little money.

They changed the rules of the game and generate more money for themselves and their community that makes everybody happy. This is our goal: making people healthy and happy with what we did not know we have. And after all, the sky is blue, the ocean is blue and our earth as seen from the universe is also blue. That's why we call this the blue economy. It has only just begun.

For more information visit ZERI.org.
MOBILE TRAILER GREEN BAND

**ACT ONE (BGM: Song One)**

**INT. DAVID’S ROOM– MORNING**

DAVID holds an earth model and salutes.

**DAVID (V.O.)**

Hello, I am David. My dream is to protect our planet.

David jumps from the desk.

David walks toward and looks into the mirror.

Then he shows a confident smile and pose.

**DAVID (V.O.)**

From now on, you can call me an environmental journalist.

**DAVID**

First day of work, buddy, you look fantastic.

**EXT. URBAN STREET – MORNING**

David hums, dances and gesticulates for excitement heading to the work place.

He ends up giving a V sign like a super star while standing on a hood of a truck.

The TRUCK DRIVER looks impatient.

**DAVID**

(Clear the throat, pretend to have a microphone) Everybody, let’s save the earth!

**TRUCK DRIVER**

Hey, buddy, what a bold hitchhiking.

**DAVID**

Hey, beauty there, how about taking an electric bus together.

**TRUCK DRIVER**

Oh, sounds nice, if you buy tickets for all of them.

Truck driver points to the livestock on the bed of the truck.

David gives an embarrassed smile.

**INT. OFFICE-PODIUM – MORNING**

The *Sustainability Development* media office manager GOLIATH gives David a warm welcome in front of all the staff. We can see a board showing *Sustainability Development media office* in an obvious place.

**GOLIATH**

OK, everybody, here is our new journalist.

David, we need some great ideas from THE GREEN ECONOMY.

Remember, these ideas should make everybody in this world happy.

**DAVID**

Got it!

David is visually on fire.

**GOLIATH**

Oh, calm down, your fire may damage our rainforest. (murmur) hey guys, be nice to David, cause he might only stick around for a month.
David is a little bit frightened.

(1) David, a promising young journalist

DAVID

THE GREEN ECONOMY, why it’s so hard for me to find a good idea.

We see a TV screen; the Green Superman teaches what kind of eco-friendly activities people can take in daily life.

DAVID

I acquire knowledge from the high-level science education.

GREEN SUPERMAN

Good kids, eat natural food, use natural light and say no to plastic bags. You will be a hero like me (a big smile).

We see a stage play in a school hall. David plays a role of a tree. We see David’s big face at first and see the whole picture of the stage.

DAVID

I blend into nature.

CLASSMATE

David, don’t sleep, it’s your turn now.

We are in the park We see David’s criticizing pose. (zoom in) We see David talk to a cat.

David

I try to influence others.

(to the cat) You should not eat such fast food.

(2) Is gonna be tortured by THE GREEN ECONOMY
ACT TWO “Song Two”

INT. OFFICE-ONE CORNER – DAY

DAVID
All my predecessors got fired within one month!

GOLIATH
You too, if you can’t find one true good idea asap…

AMY
A perfect idea for everybody in the world, from THE GREEN ECONOMY? (Admired)
You may pack your desk right now.

DAVID
I must do something (panic).

(3) Published by Zero Emission Research Initiative

EXT. LOCATIONS OF FAILURE CASES – DAY OR EVENING

GOLIATH
Open an organic grocery store? (awkward)

in one organic shop

The OWNER tries to sell something to a passerby, while David observes the scene beside.

OWNER
Hey lady, fancy a bottle of organic oil?

CUSTOMER
(Look at the price), sorry, I am not the top 1%.

DAVID
You import this organic fish from the other side of the earth, the food mile is...

OWNER
Or you think it can swim to us by itself.

GOLIATH
Bio Soap and Bio plastic? (impatient)

In one public space, there is a group of activists.

ACTIVISTS
Bio Soap actually damages our rainforests!!!

In one TV station

ANCHOR
According to the recent report, bio plastics competes with food. This could make the hunger issue worse.

GOLIATH
Solar power (laugh loudly)

DAVID
I know, I shouldn’t expect citizens to pay more tax (disappointedly).
ACT THREE (1/2) “BGM: Unveil a New Page”

(4) When the legend of GREEN crumbles.

INT. OFFICE-DAVID’S SEAT – DAY
David hangs his head dispiritedly.

    DAVID
    In THE GREEN ECONOMY, no idea can satisfy everyone...what should I do?

(5) Why not go to BLUE’s world?
MOTHER EARTH crashes and falls from the ceiling unexpectedly and lands in front of David.

    MOTHER EARTH
    Maybe I should ask Santa how to sneak into a building.

    DAVID
    Who are you?

    MOTHER EARTH
    I am Mother Earth, what, who says Mother Earth can’t dress like this.

    DAVID
    Un...That’s not what I meant... (be interrupted)

    MOTHER EARTH
    Listen, green ideas are like dinosaurs now.
    What we need, is THE BLUE ECONOMY.

    DAVID
    Wow, it is really out of the blue.

    MOTHER EARTH
    Let me show you the wonder of it,
    Just give me your (evil face) ... coffee grounds.

MAGIC FARMER rushes in.

    MAGIC FARMER
    Put down that coffee grounds!

    MOTHER EARTH
    Here we go!
ACT THREE (2/2) “BGM: Song Three”

EXT. COFFEE CASE – DAY

MAGIC FARMER (V.O.)
(to David) These coffee grounds can be turned into food, energy and jobs for us.

David comes to a fantasy world. He looks around with an unbelievable face.

MAGIC FARMER
We use them to grow mushrooms

David falls on a fast-growing mushroom. Mother Other flies with joy.

MAGIC FARMER
The leftover is the animal feed.

Mother Earth directs the animals to rush to David and eat the leftover of the mushrooms. David is panic.

MAGIC FARMER
Animals are delicious...

David looks at a roast chicken with his mouth watering.

MAGIC FARMER (CONT’)
Their manure can even generate biogas.

Animals excrete and David stamps on the manure accidentally. Mother Earth has a look of disgust. Magic Farmer put the manure into a barrel and the fire comes out right away.

INT. PARTY HALL AND OTHER LOCATIONS – NIGHT

(6) In this century, you can’t never miss

Magic Farmer turns on the light bulb.

We see a family is granted with a bunch of food; a housewife uses gas to roast a pig; a husband shows his salary. David is tossed by people.

(7) How to become a smart earth saver

David and Mother Earth are in the office.

DAVID
I always thought magic doesn’t exist.

MOTHER NATURE
Kid, it’s no magic, just an inspiration from mother-nature.

Everybody shares a big cake.

Magic Farmer gives David a piece of cake.

MAGIC FARMER
THE BLUE ECONOMY? It makes the cake big enough for everyone.

DAVID
It all came from wasted coffee grounds. You are an amazing entrepreneur.

Out of being shy, Magic Farmer carelessly push David too much.

MAGIC FARMER (Character Introduction)
How sweet of you.

David stands on the top of a hill.

DAVID
(shout out) Welcome to the world of THE BLUE ECONOMY
David takes a microphone and shows his determination.

**DAVID (Character Introduction)**

Good ideas like this will save my career!

Mother Earth is at the office.

World map displays where the entrepreneurs are.

**MOTHER EARTH (Character Introduction)**

You can meet more entrepreneurs from The BLUE ECONOMY.

Light up all the idea bulbs

David is about to enter an illuminated entrance.

(8) THE BLUE ECONOMY: The wonder of 10 years 100 innovations 100 million jobs

Manager is drinking coffee in the lounge.

Suddenly Mother Earth crashed the wall falling from the ceiling and sat on the manager.

Mother Earth spoke with Santa Claus.

**MOTHER EARTH**

Did I make better this time?

Manager moaned.

**Manager**

I don’t think so.

Magic Farmer rushes in with a knife in his hand.

(9) ZERI.org
Appendix C  Key Frames of N.V

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10.
He thinks he knows sustainability well

David, a promising young journalist
Is gonna be tortured by THE GREEN ECONOMY

Published by Zero Emission Research Initiative
Why not go to BLUE's world?
In this century, you can’t never miss...
Appendix D1 Questionnaire for Exp1

Video Effectiveness Experiment Consent Form

Conductor: LUO HUI YUN, Keio University

Experiment Purpose & Procedure
The purpose of this experiment is to investigate how video characteristics influence the video effectiveness on YouTube viewers. The data from you will be used in a master thesis.

At the beginning of the experiment, you are required to watch two videos. Both of them are telling a new approach to sustainable development. The first one was made by professionals, while the second one was created by an amateur. Each one lasts for 4 minutes and you have to watch them two times respectively.

Also, you will be interviewed for 10 minutes based on a questionnaire. In sum, it will take you within 30 minutes to complete the experiment.

Please note that none of activities in the experiment aims to test your personal intelligence or ability. The objective is to collect your response to the two videos.

Confidentiality
During the interview, the conversation might be recorded.
All data in the questionnaire will be coded so that your anonymity will be protected in any research papers and presentations that result from this work.

Risks and benefits
There is no obvious risk involved in your participation in the experiment.
The benefits might be the learning what The Blue Economy is and enjoying watching two videos.

Record of Consent
Your signature below indicates that you have understood the information about the Video Effectiveness Experiment and consent to your participation. The participation is voluntary and you may refuse to answer certain questions on the questionnaire and withdraw from the study at any time with no penalty. This does not waive your legal rights. You should have received a copy of the consent form for your own record. If you have further questions related to the experiment, please contact the researcher: LUO HUI YUN; ageeluo@keio.jp.

_________________ (2017/ / ) ___________________ (2017/ / )
Participant Date Researcher Date
Video One Contents Checking

After watching **Video One** twice, please indicate your level of agreement with the following statements using the scale below.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Statements

1. [Test1-1] About the ideas of The Green Economy, do you agree

   Video One shows The Green Economy is not perfect. (     )

2. [Test1-2] About the concept of The Blue Economy, do you agree

   The video creator uses a coffee grounds example to illustrate the concept of The Blue Economy. (     )

3. [Test1-3] About the entrepreneurs of The Blue Economy, do you agree

   The video creator believes the entrepreneurs of The Blue Economy can create a better world than The Green Economy does. (     )

4. [Test1-4] About the purpose of Video One, do you agree

   The purpose of the video is to promote The Blue Economy. (     )
Video Two Contents Checking

After watching **Video Two** twice, please indicate your level of agreement with the following statements using the scale below.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Statements

1. **[Test1-1]** About the ideas of The Green Economy, do you agree

   Video Two shows The Green Economy is **not perfect**. (     )

2. **[Test1-2]** About the concept of The Blue Economy, do you agree

   The video creator uses a **coffee grounds** example to illustrate the concept of The Blue Economy. (     )

3. **[Test1-3]** About the entrepreneurs of The Blue Economy, do you agree

   The video creator believes the entrepreneurs of The Blue Economy can create a **better** world than The Green Economy does. (     )

4. **[Test1-4]** About the purpose of Video Two, do you agree

   The purpose of the video is to **promote The Blue Economy**. (     )
Video Characteristics Checking

Please your level of agreement with the following statements regarding characteristics of the two videos using the scale below.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Statements

1. [Test2-1] Regarding the presence of a fiction story

   Video One mainly talks about a fiction story. (     )

   Video Two mainly talks about a fiction story. (     )

   *A fiction story should include:
   A main character (protagonist) who tries to solve a problem in his life.

2. [Test2-2] Regarding the continuity between scenes

   In Video One, most scenes are consistent with their previous scene. (     )

   In Video Two, most scenes are consistent with their previous scene. (     )

3. [Test2-3] Regarding the entertaining scenes

   Video One provides many entertaining scenes (e.g. dramatic, humorous and emotional). (     )

   Video Two provides many entertaining scenes (e.g. dramatic, humorous and emotional). (     )

4. [Test2-4] Regarding the possibility to a shortened film

   Video One is possibly a preview of a film. (     )

   Video Two is possibly a preview of a film. (     )

5. [Test2-5] Regarding the attractiveness of the characters

   Video One has eye-catching characters. (     )

   Video Two has eye-catching characters. (     )
6. [Test2-6] Regarding the **exciting background music**

   Video One’s background music is exciting. (     )

   Video Two’s background music is exciting. (     )

7. [Test2-7] Regarding the **role of voice-over**

   In Video One, the main role of voice-over is to make The Blue Economy appear mysterious to the audience. (     )

   In Video Two, the main role of voice-over is to make The Blue Economy appear mysterious to the audience. (     )

----------------------------------------------------------------------------------------------------------------

**General Information**

At the end, please allow us to collect some personal information.

1. **Age**
   - □ 20-29
   - □ 30-39
   - □ 40-49
   - □ 50-59
   - □ 60-69

2. **Gender**
   - □ Male
   - □ Female

3. **Nationality**
   - ________

4. **How frequently do you use YouTube?**
   - □ Always: everyday
   - □ Usually: four or five times in a week
   - □ Often: three times a week
   - □ Seldom: Once or twice in a week
   - □ Less than once in a week

5. **What’s the main kind of videos you watch on YouTube? (choose only one)**
   - □ Entertaining
   - □ Educational
   - □ Informational

6. **How actively do you look for sustainability-related videos on YouTube?**
   - □ Actively
   - □ Probably active
   - □ Neutral
   - □ Probably passive
   - □ Passively
Appendix D2 Questionnaire for Exp2

Video Effectiveness Experiment Consent Form

Conductor: LUO HUI YUN, Keio University

Experiment Purpose & Procedure
The purpose of this experiment is to investigate how video characteristics influence the video effectiveness on YouTube viewers. The data from you will be used in a master thesis.

At the beginning of the experiment, you are required to watch two videos. Both of them are telling a new approach to sustainable development. The first one was made by professionals, while the second one was created by an amateur. Each one lasts for 4 minutes and you have to watch them two times respectively.

Also, you will be interviewed for 10 minutes based on a questionnaire. In sum, it will take you within 30 minutes to complete the experiment.

Please note that none of activities in the experiment aims to test your personal intelligence or ability. The objective is to collect your response to the two videos.

Confidentiality
During the interview, the conversation might be recorded. All data in the questionnaire will be coded so that your anonymity will be protected in any research papers and presentations that result from this work.

Risks and benefits
There is no obvious risk involved in your participation in the experiment. The benefits might be the learning what The Blue Economy is and enjoying watching two videos.

Record of Consent
Your signature below indicates that you have understood the information about the Video Effectiveness Experiment and consent to your participation. The participation is voluntary and you may refuse to answer certain questions on the questionnaire and withdraw from the study at any time with no penalty. This does not waive your legal rights. You should have received a copy of the consent form for your own record. If you have further questions related to the experiment, please contact the researcher: LUO HUI YUN; ageeluo@keio.jp.

______________ (2017/3/14) ______________ (2017/3/14)
Participant Date Researcher Date
Post-experiment Questionnaire for Video Effectiveness

Please report your engagement toward the two videos.

**Question One: About Video One**

After watching Video One, how will you engage with it?

Please indicate your level of probability for each activity using the scale below.

<table>
<thead>
<tr>
<th>Definitely not</th>
<th>Probably not</th>
<th>Neutral</th>
<th>Probably yes</th>
<th>Definitely Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

*Activities of viewer engagement*

1. [TestA-1] Press Like (       )
2. [TestA-2] Add to my favorites (    )
3. [TestA-3] Leave comments (      )
4. [TestA-4] Subscribe the channel (     )
5. [TestA-5] Share with other people (   )
6. [Test3-1] Visit the official website of The Blue Economy (    )

**Supportive Question Two: About Video Two**

After watching Video Two, how will you engage with it?

Please indicate your level of probability for each activity using the scale below.

<table>
<thead>
<tr>
<th>Definitely not</th>
<th>Probably not</th>
<th>Neutral</th>
<th>Probably yes</th>
<th>Definitely Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

*Activities of viewer engagement*

1. [TestA-1] Press Like (      )
2. [TestA-2] Add to my favorites (    )
3. [TestA-3] Leave comments (     )
4. [TestA-4] Subscribe the channel (   )
5. [TestA-5] Share with other people (   )
6. [Test3-1] Visit the official website of The Blue Economy (    )
Question Three

Below is a list of statements describing characteristics of Video One and Video Two. We want to know whether these characteristics make Video Two more attractive or less attractive than Video One. “Attractive” here means how likely the video makes you to visit the official website of The Blue Economy.

Please indicate how each characteristic influence your preference between Video One and Video Two. Later, please explain your reasons to the researcher.

List of characteristics of Video Two and Video One

[TestB-1] Video Two delivers a fiction story while Video One doesn’t.

*A fiction story should include: A main character (protagonist) who tries to solve a problem in his life.

How does this affect your feeling toward two videos?

☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.

[TestB-2] In Video Two, scenes are less consistent with each other.

How does this affect your feeling toward two videos?

☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.

[TestB-3] Video Two provides many entertaining scenes (e.g. dramatic, humorous and emotional) than Video One does.

How does this affect your feeling toward two videos?

☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.
[TestB-4] Video Two looks like a preview of a film while Video One doesn’t.

How does this affect your feeling toward two videos?
☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.

[TestB-5] Video Two has more eye-catching characters than Video One does.

How does this affect your feeling toward two videos?
☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.

[TestB-6] Video Two’s background music is more exciting than Video One’s.

How does this affect your feeling toward two videos?
☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.

[TestB-7] In Video Two, voice-over makes The Blue Economy appear more mysterious to the audience.

How does this affect your feeling toward two videos?
☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.
Question Four

Is there any other factor not mentioned above but influential on your preference between Video One and Video Two?

☐ Yes: it is ________________________________________________________________
☐ No

----------------------------------------------------------------------------------------------------------------

General Information

At the end, please allow us to collect some personal information.

1. Age
   ☐ 20-29
   ☐ 30-39
   ☐ 40-49
   ☐ 50-59
   ☐ 60-69

2. Gender
   ☐ Male
   ☐ Female

3. Nationality
   ______

4. How frequently do you use YouTube?
   ☐ Always: everyday
   ☐ Usually: four or five times in a week
   ☐ Often: three times a week
   ☐ Seldom: Once or twice in a week
   ☐ Less than once a week

5. What’s the main kind of videos you watch on YouTube? (choose only one)
   ☐ Entertaining
   ☐ Educational
   ☐ Informational

6. How actively do you look for sustainability-related videos on YouTube?
   ☐ Actively
   ☐ Probably active
   ☐ Neutral
   ☐ Probably passive
   ☐ Passively
Appendix D3 Questionnaire for Exp3

Video Effectiveness Experiment Consent Form

Conductor: LUO HUI YUN, Keio University

Experiment Purpose & Procedure
The purpose of this experiment is to investigate how video characteristics influence the video effectiveness on YouTube viewers. The data from you will be used in a master thesis.

At the beginning of the experiment, you are required to watch two videos. Both of them are telling a new approach to sustainable development. The first one was made by professionals, while the second one was created by an amateur. Each one lasts for 4 minutes and you have to watch them two times respectively.

Also, you will be interviewed for 10 minutes based on a questionnaire. In sum, it will take you within 30 minutes to complete the experiment.

Please note that none of activities in the experiment aims to test your personal intelligence or ability. The objective is to collect your response to the two videos.

Confidentiality
During the interview, the conversation might be recorded.
All data in the questionnaire will be coded so that your anonymity will be protected in any research papers and presentations that result from this work.

Risks and benefits
There is no obvious risk involved in your participation in the experiment.
The benefits might be the learning what The Blue Economy is and enjoying watching two videos.

Record of Consent
Your signature below indicates that you have understood the information about the Video Effectiveness Experiment and consent to your participation. The participation is voluntary and you may refuse to answer certain questions on the questionnaire and withdraw from the study at any time with no penalty. This does not waive your legal rights. You should have received a copy of the consent form for your own record. If you have further questions related to the experiment, please contact the researcher: LUO HUI YUN; ageeluo@keio.jp.

______________ (2017/3/1) ______________ (2017/3/1)
Participant Date Researcher Date
Post-experiment Questionnaire for Video Effectiveness

Please report your engagement toward the two videos.

**Question One: About Video One**

After watching Video One, how will you engage with it?

Please indicate your level of probability for each activity using the scale below.

<table>
<thead>
<tr>
<th>Definitely not</th>
<th>Probably not</th>
<th>Neutral</th>
<th>Probably yes</th>
<th>Definitely Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Activities of viewer engagement**

1. [TestA-1] Press Like (     )
2. [TestA-2] Add to my favorites (     )
3. [TestA-3] Leave comments (     )
4. [TestA-4] Subscribe the channel (     )
5. [TestA-5] Share with other people (     )
6. [Test3-1] Visit the official website of The Blue Economy (     )

**Supportive Question Two: About Video Two**

After watching Video Two, how will you engage with it?

Please indicate your level of probability for each activity using the scale below.

<table>
<thead>
<tr>
<th>Definitely not</th>
<th>Probably not</th>
<th>Neutral</th>
<th>Probably yes</th>
<th>Definitely Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Activities of viewer engagement**

1. [TestA-1] Press Like (     )
2. [TestA-2] Add to my favorites (     )
3. [TestA-3] Leave comments (     )
4. [TestA-4] Subscribe the channel (     )
5. [TestA-5] Share with other people (     )
6. [Test3-1] Visit the official website of The Blue Economy (     )

[Test3-2] **Question Three**

Assuming that you want to introduce The Blue Economy to kids, which video will you use?

Please indicate your choice using the scale below (     ).

<table>
<thead>
<tr>
<th>Definitely Video One</th>
<th>Probably Video One</th>
<th>Neutral</th>
<th>Probably Video Two</th>
<th>Definitely Video Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Question Four

Below is a list of statements describing characteristics of Video One and Video Two. Again, please assume that you want to introduce The Blue Economy to kids by using videos. We want to know whether these characteristics make Video Two more attractive than Video One. Attractive here means that you think kids may like it. Please indicate how each characteristic influence your choice between Video One and Video Two.

List of characteristics of Video Two and Video One

[TestC-1] Video Two delivers a fiction story while Video One doesn’t.

*A fiction story should include: A main character (protagonist) who tries to solve a problem in his life.

How does this affect your feeling toward two videos?

☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.

[TestC-2] In Video Two, scenes are less consistent with each other.

How does this affect your feeling toward two videos?

☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.

[TestC-3] Video Two provides many entertaining scenes (e.g. dramatic, humorous and emotional) than Video One does.

How does this affect your feeling toward two videos?

☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.
[TestC-4] Video Two looks like a preview of a film while Video One doesn’t.

How does this affect your feeling toward two videos?
☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.

[TestC-5] Video Two has more eye-catching characters than Video One does.

How does this affect your feeling toward two videos?
☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.

[TestC-6] Video Two’s background music is more exciting than Video One’s.

How does this affect your feeling toward two videos?
☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.

[TestC-7] In Video Two, voice-over makes The Blue Economy appear more mysterious to the audience.

How does this affect your feeling toward two videos?
☐ This definitely makes Video Two more attractive than Video One.
☐ This probably makes Video Two more attractive than Video One.
☐ This doesn’t have influence.
☐ This probably makes Video Two less attractive than Video One.
☐ This definitely makes Video Two less attractive than Video One.
**Question Five**

Is there any other factor not mentioned above but influential on your decision between Video One and Video Two? **Decision here means which video you will show to kids.**

☐ Yes: it is______________________________________________________________

☐ No

----------------------------------------------------------------------------------------------------------------

**General Information**

At the end, please allow us to collect some personal information.

1. Age
   - ☐ 20-29
   - ☐ 30-39
   - ☐ 40-49
   - ☐ 50-59
   - ☐ 60-69

2. Gender
   - ☐ Male
   - ☐ Female

3. Nationality
   - _______

4. How frequently do you use YouTube?
   - ☐ Always: everyday
   - ☐ Usually: four or five times in a week
   - ☐ Often: three times a week
   - ☐ Seldom: Once or twice in a week
   - ☐ Less than once in a week

5. What’s the main kind of videos you watch on YouTube? (choose only one)
   - ☐ Entertaining
   - ☐ Educational
   - ☐ Informational

6. How actively do you look for sustainability-related videos on YouTube?
   - ☐ Actively
   - ☐ Probably active
   - ☐ Neutral
   - ☐ Probably passive
   - ☐ Passively
Appendix E1 Statistical Results of Exp1

Demographics of 15 people

<table>
<thead>
<tr>
<th>Age Group</th>
<th>No.</th>
<th>Percentage</th>
<th>Gender</th>
<th>No.</th>
<th>Percentage</th>
<th>Nationality</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>14</td>
<td>93%</td>
<td>Male</td>
<td>9</td>
<td>60%</td>
<td>China</td>
<td>2</td>
<td>13%</td>
</tr>
<tr>
<td>30-39</td>
<td>1</td>
<td>7%</td>
<td>Female</td>
<td>6</td>
<td>40%</td>
<td>Denmark</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>40-49</td>
<td>0</td>
<td>0%</td>
<td></td>
<td>15</td>
<td>100%</td>
<td>France</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>50-59</td>
<td>0</td>
<td>0%</td>
<td></td>
<td>15</td>
<td>100%</td>
<td>India</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>60-69</td>
<td>0</td>
<td>0%</td>
<td></td>
<td>15</td>
<td>100%</td>
<td>Japan</td>
<td>2</td>
<td>13%</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>100%</td>
<td></td>
<td>15</td>
<td>100%</td>
<td>Malaysia</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sweden</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Taiwan</td>
<td>5</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vietnam</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td>15</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YouTube Use Frequency</th>
<th>No.</th>
<th>Percentage</th>
<th>YouTube Use Purpose</th>
<th>No.</th>
<th>Percentage</th>
<th>Motivation on Sustainability-themed videos</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>9</td>
<td>60%</td>
<td>Entertaining</td>
<td>11</td>
<td>73%</td>
<td>Active</td>
<td>5</td>
<td>33%</td>
</tr>
<tr>
<td>Usually</td>
<td>4</td>
<td>27%</td>
<td>Educational</td>
<td>2</td>
<td>13%</td>
<td>PossiblyActive</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>Often</td>
<td>0</td>
<td>0%</td>
<td>Informational</td>
<td>2</td>
<td>13%</td>
<td>Neutral</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>Seldom</td>
<td>2</td>
<td>13%</td>
<td>Total</td>
<td>15</td>
<td>100%</td>
<td>PossiblyPassive</td>
<td>5</td>
<td>33%</td>
</tr>
<tr>
<td>Less</td>
<td>0</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td>Passive</td>
<td>3</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td>15</td>
<td>100%</td>
</tr>
<tr>
<td>Participants</td>
<td>Perceived strength of 1st info</td>
<td>Perceived strength of 2nd info</td>
<td>Perceived strength of 3rd info</td>
<td>Perceived strength of 4th info</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------</td>
<td>-------------------------------</td>
<td>-------------------------------</td>
<td>-------------------------------</td>
<td></td>
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<td></td>
</tr>
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<td>Par1-1</td>
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<td>4</td>
<td>5</td>
<td></td>
<td></td>
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<tr>
<td>Par1-2</td>
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<td>4</td>
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<td>4</td>
<td></td>
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<td></td>
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## Appendix E2 Statistical Results of Exp2 and Exp3

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Test A Engagement on N.V
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Raw Data of TestC-1~TestC-7

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Appendix F Tables and Figures

Table 1.

Prosocial Entertainment Media Examples

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<thead>
<tr>
<th>Name</th>
<th>Production country</th>
<th>Social cause addressed</th>
<th>Source</th>
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<tbody>
<tr>
<td>Soul City (1994)</td>
<td>TV-series</td>
<td>Health education</td>
<td>(Lacaya &amp; Williams, 2008)</td>
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Table 2.

Summary of the main and subordinate requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
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<tr>
<td>Req1</td>
<td>N.V has to convey the same information as the O.V does.</td>
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<tr>
<td>Req1-1</td>
<td>N.V has to declare: The Green Economy is not perfect.</td>
</tr>
<tr>
<td>Req1-2</td>
<td>N.V has to use a coffee grounds example to illustrate the concept of The Blue Economy.</td>
</tr>
<tr>
<td>Req1-3</td>
<td>N.V has to declare: Entrepreneurs of The Blue Economy can create a better world than The Green Economy does.</td>
</tr>
<tr>
<td>Req1-4</td>
<td>The purpose of the N.V is to promote The Blue Economy.</td>
</tr>
<tr>
<td>Req2</td>
<td>N.V has to exhibit MTCs.</td>
</tr>
<tr>
<td>Req2-1</td>
<td>N.V mainly talks about a fiction story.</td>
</tr>
<tr>
<td>Req2-2</td>
<td>Scenes in N.V changes dynamically in terms of time and space.</td>
</tr>
<tr>
<td>Req2-3</td>
<td>N.V provides many entertaining scenes, such as dramatic, humorous and emotional.</td>
</tr>
<tr>
<td>Req2-4</td>
<td>N.V reserves the ending of the story.</td>
</tr>
<tr>
<td>Req2-5</td>
<td>N.V has eye-catching characters.</td>
</tr>
<tr>
<td>Req2-6</td>
<td>N.V has exciting background music.</td>
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<tr>
<td>Req2-7</td>
<td>The voice-over of N.V makes the theme appear mysterious to the audience.</td>
</tr>
<tr>
<td>Req3</td>
<td>N.V has to possess more pedagogical value than O.V does.</td>
</tr>
<tr>
<td>Req3-1</td>
<td>Compared with O.V, N.V has to arouse higher motivation of adults to visit the official website of The Blue Economy.</td>
</tr>
<tr>
<td>Req3-2</td>
<td>Compared with O.V, N.V has to provoke higher willingness of educators to use it to teach elementary students about The Blue Economy.</td>
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### Table 3

Technical Resource for Implementation

<table>
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<tr>
<td><strong>Materials</strong></td>
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<tr>
<td>Animated visual materials: characters, backgrounds and props</td>
<td>Assets library of Go Animate</td>
</tr>
<tr>
<td>Audio materials: dubbing</td>
<td>Voice actors</td>
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<tr>
<td>Audio materials: background music and sound effects</td>
<td>Audio library of YouTube</td>
</tr>
<tr>
<td><strong>Tools</strong></td>
<td></td>
</tr>
<tr>
<td>Audio editing</td>
<td>Adobe Audition CC</td>
</tr>
<tr>
<td>Final integration editing</td>
<td>Adobe Premiere CC</td>
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### Table 4.

Results of Paired Test for Perceived Information Strongness by Video

<table>
<thead>
<tr>
<th>Test No.</th>
<th>O.V</th>
<th>N.V</th>
<th>t-test</th>
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<tbody>
<tr>
<td>Test1-1 (Info1 strongness)</td>
<td>4.53</td>
<td>0.64</td>
<td>4.20</td>
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<td>Test1-2 (Info2 strongness)</td>
<td>4.27</td>
<td>0.70</td>
<td>4.20</td>
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<tr>
<td>Test1-3 (Info3 strongness)</td>
<td>4.53</td>
<td>0.83</td>
<td>4.33</td>
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<td>Test1-4 (Info4 strongness)</td>
<td>4.47</td>
<td>0.83</td>
<td>4.47</td>
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*Note1: The strongness of each piece of information is measured on a five-point scale with “1” being least felt, “3” being neutral and “5” being most felt.

*Note2: *p<0.05
Table 5.

Results of Paired Test for Perceived Movie Trailer Characteristic Prominence by Video

<table>
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<th>N.V</th>
<th>O.V</th>
<th>t-test</th>
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</thead>
<tbody>
<tr>
<td>Test2-1</td>
<td>4.40</td>
<td>1.80</td>
<td>9.54*</td>
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<tr>
<td>Test2-3</td>
<td>4.33</td>
<td>2.40</td>
<td>5.85*</td>
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<td>Test2-4</td>
<td>4.00</td>
<td>1.73</td>
<td>4.60*</td>
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<tr>
<td>Test2-5</td>
<td>4.13</td>
<td>2.53</td>
<td>4.12*</td>
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<td>Test2-6</td>
<td>4.13</td>
<td>2.27</td>
<td>4.19*</td>
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<tr>
<td>Test2-7</td>
<td>3.60</td>
<td>2.93</td>
<td>1.78*</td>
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<td>N.V</td>
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<td>Test2-2</td>
<td>4.40</td>
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*Note1*: The prominence of each MTC is measured on a five-point scale with “1” being least sensible, “3” being neutral and “5” being most sensible.

*Note2*: *p<0.05

*Note3*: In Test2-2, we measured the level of continuity in two videos instead of dynamic degree. By doing so, the participants can understand the question more easily. Therefore, we expected O.V will get higher mean value in this test.

Table 6.

Results of One Sample z-test for Possibility of YouTube Engagement Activity in O.V

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<th>M</th>
<th>SD</th>
<th>Z</th>
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<tr>
<td>Test A-1 Like</td>
<td>3.07</td>
<td>1.26</td>
<td>0.34</td>
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<tr>
<td>Test A-2 Favorite</td>
<td>2.22</td>
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<td>Test A-3 Comment</td>
<td>1.82</td>
<td>0.85</td>
<td>1.00</td>
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<td>Test A-4 Subscribe</td>
<td>2.33</td>
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<td>1.00</td>
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<td>Test A-5 Share</td>
<td>2.95</td>
<td>1.23</td>
<td>0.63</td>
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<td>Test3-1 Visit</td>
<td>3.60</td>
<td>1.04</td>
<td>0.00*</td>
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</tbody>
</table>

*Note1*: The possibility of doing each activity is measured on a five-point scale with “1” being least possible, “3” being neutral and “5” being most possible.

*Note2*: *p<0.05
Table 7.

Results of One Sample z-test for Possibility of YouTube Engagement Activity in N.V

<table>
<thead>
<tr>
<th>Activity</th>
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<th>Z</th>
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<td>Test A-1 Like</td>
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<td>0.70</td>
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<td>Test A-3 Comment</td>
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*Note1*: The possibility of doing each activity is measured on a five-point scale with “1” being least possible, “3” being neutral and “5” being most possible.

*Note2*: *p<0.05

Table 8.

Results of One Sample t-test for Influence of MTC on N.V in Exp2

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<th>SD</th>
<th>t-test</th>
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<td>3.32</td>
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<td>TestB-3 MTC3</td>
<td>3.44</td>
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<td>3.48</td>
<td>1.26</td>
<td>1.90*</td>
</tr>
<tr>
<td>TestB-6 MTC6</td>
<td>3.36</td>
<td>1.19</td>
<td>1.52</td>
</tr>
<tr>
<td>TestB-7 MTC7</td>
<td>3.04</td>
<td>0.68</td>
<td>0.30</td>
</tr>
</tbody>
</table>

*Note1*: The influence of each MTC is measured on a five-point scale with “1” being least strong, “3” being neutral and “5” being most strong.

*Note2*: *p<0.05
Table 9.

Results of One Sample t-test for Influence of MTC on N.V in Exp3

<table>
<thead>
<tr>
<th>MTC</th>
<th>Influence on N.V</th>
<th>M</th>
<th>SD</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>TestC-1 MTC1</td>
<td></td>
<td>4.17</td>
<td>0.65</td>
<td>9.87*</td>
</tr>
<tr>
<td>TestC-2 MTC2</td>
<td></td>
<td>3.10</td>
<td>0.96</td>
<td>0.57</td>
</tr>
<tr>
<td>TestC-3 MTC3</td>
<td></td>
<td>4.53</td>
<td>0.57</td>
<td>14.70*</td>
</tr>
<tr>
<td>TestC-4 MTC4</td>
<td></td>
<td>3.80</td>
<td>0.66</td>
<td>6.60*</td>
</tr>
<tr>
<td>TestC-5 MTC5</td>
<td></td>
<td>4.27</td>
<td>0.74</td>
<td>9.38*</td>
</tr>
<tr>
<td>TestC-6 MTC6</td>
<td></td>
<td>3.83</td>
<td>0.91</td>
<td>5.00*</td>
</tr>
<tr>
<td>TestC-7 MTC7</td>
<td></td>
<td>3.30</td>
<td>0.84</td>
<td>1.96*</td>
</tr>
</tbody>
</table>

*Note1: The influence of each MTC is measured on a five-point scale with “1” being least strong, “3” being neutral and “5” being most strong.

*Note2: *p<0.05

Table 10.

Interview Results which are consistent with existing research

<table>
<thead>
<tr>
<th>MTC</th>
<th>Comments</th>
<th>Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTC1</td>
<td>It will be easier for children to understand the video by following a story.</td>
<td>(Finsterwalder, Kupfelwieser, &amp; de Villiers, 2012; Hoffhaus &amp; Lubjuhn, 2010; Julia-Lena et al., 2014; Lacaya &amp; Williams, 2008; Marich, 2013; Yanagisawa, Iida, &amp; Amasaka, 2014)</td>
</tr>
<tr>
<td>MTC3</td>
<td>The humor in N.V catches children’s attention.</td>
<td>(Cruse, 2011; Film Education, 2009; Greenberg &amp; Zanetis, 2012)</td>
</tr>
<tr>
<td>MTC5</td>
<td>Interesting characters and their voice bring fun to children.</td>
<td>(Jerrick, 2013; Marich, 2013)</td>
</tr>
<tr>
<td>MTC6</td>
<td>The music creates a familiar and happy atmosphere with which children can engage.</td>
<td>(Film Education, 2009; Finsterwalder et al., 2012; Garrett, 2012; Jerrick, 2013)</td>
</tr>
</tbody>
</table>
Figure 1. User activities on YouTube

Figure 2. The knowledge gap in E-E strategy
Worse, some stuff we thought is great for us and good for nature actually is not good at all. Bio soaps use palm oil from plantations that destroyed the rainforest. Solar energy depends for decades on subsidies which must be paid with tax money. Bioplastics compete with food organic food is shipped around the world damaging the climate. So it is not only...

Figure 3. Process of transcribing The Blue Economy. mov

Figure 4. Two use cases of N.V

Context 1 The viewer visits the official website after watching N.V.

Context 2 The viewer brings N.V in the classroom after watching N.V.
Figure 5. Relationships of three main requirements

Figure 6. Visual design of main and supporting characters (from right to left: David, Coffee entrepreneur and Mother Earth.)
Figure 7. Schematic testing procedure
Figure 8. Principal tests and supportive tests