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Efficacy according to viewing length and video content of promotional videos for sustainability graduate education.

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Efficacy according to viewing length and video content

of promotional videos for sustainability graduate education.

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Dedications

To my loving wife and to the planet.

May we have many more years together!

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Preface

It must be stated from the outset that the research in this paper could not have happened unless there were principles of free speech enabling the inquiry. This work occurs in a mixed European and American academic environment. The resources for the research were available from the libraries of both universities. The work is in English. The dissertation was written in the island country of Malta. Malta is a democratic nation allowing freedoms and liberties of expression. The nation enjoys a high standard of living. There is also political stability and the rule of law. Malta is an island nation in the Mediterranean where English (along with Maltese) is an official language. This setting, conducive to research, enabled the study. A great deal of infrastructure was required to create the media and conduct this research. In this case, it does not "go without saying", as we hope our readers may extend into developing nations where this information may be most useful to support development.

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Abstract

Sustainability communication opens up a range of perspectives on the definition and theory associated with concepts of sustainability and communication. An overview of the literature dealing with sustainability communication and its measure is presented with a dialogic perspective in mind. Practical matters of the video length, production methods and design are described. The Project is evaluated with the sustainability testing rubric advanced by Polk, Reilly, Servaes, Shi and Yakupitijage. The study compares three videos of different length and environmental images through an online survey. It is hypothesized that related environmental images and a three minute video will prompt more positive affect and cognitive retention of Maltese sustainability issues than a one minute video with similar images and a one minute video with no such images and a group that views no video.

Introduction

What is Sustainability Communication?

When discussing sustainability communication, the reference is to any media carrying a message with a focus on development that meets the needs of the current generation while protecting the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987). Literature reviewed for the formulation of this research focuses primarily on the interdisciplinary and transdisciplinary nature of sustainability communication and its difficulty in digestion into a unified theory. This leads to an overview of leading sustainability projects to identify a practical assessment rubric that is applied to media production.

The issue of climate change and the many lives affected by it demands that we make a Copernican revolution in our major institutions (IPCC, 2014). While consumer behavior may be impacted by sustainability communication, this will be determined largely by the media created by existing business structures and perhaps peer-created media. We hope to be able to lay the groundwork for others to produce such videos based on existing formats generated by the sustainability development community. This study is meant to provide a practical guide to making short-form sustainability videos, as well as a researched report of which formats might be most effective.

A Handbook for Sustainability Media Production

Through the course of study particularly during the articulation of a perspective of communication theory and its intersection with developmental communication (which follows), a practical explanation of the production methods and mindset of a sustainability practitioner.

emerged in the form of a handbook. The sophistication of the journal literature and the tenants of sustainability science called for a down-to-earth exposition. The handbook is written in simple English terms that might allow a wide audience to learn and participate in sustainability communication. The handbook was formulated for a "lay person" and is articulated from the included sustainability evaluation rubric to provide a practical guide.

Statement of the Problem - What do we do?

Claudia de Witt in her chapter on "Media Theory and Sustainability Communication" in the collection of excellent essays entitled *Sustainability Communication: Interdisciplinary Perspectives and Theoretical Foundation* says "Communication is considered a means of anchoring the vision of sustainable development in society" (Godemann & Michelsen, 2011, p. 79). It is the means by which the communication is transmitted that creates our reality and life in society. The media itself and the content transported is the focus of the research (McLuhan, 2013).

Much sustainability communication media has been in the realm of corporate reports of performance. While rigorous documenting efforts at corporate sustainability are helpful, there is limited reach of these materials beyond the scope of the boardroom. Most companies are not realizing the potential value of these communications either for themselves or their employees, customers, investors, suppliers or local communities (Wheeler & Elkington, 2001).

> "All in all, there is still little evidence of corporate willingness to enter into real dialogue and two-way communication with stakeholders on the internet" (Herzig & Godemann, 2010, p. 16).

But what if this limited reach of business communications is because the conversation is so intractable that it is considered off mission? The space required for two-way communication and "real dialog" would demand a trained "sustainability communicator" that would interface with the planners and producers of the sustainability activity and disseminate this activity to stakeholders. Perhaps the issue is not so much "willingness" as knowing how to practice sustainability communication.

> Gregory Unruh, a professor of global business at Thunderbird School of Global Management and author of Earth, Inc., writes, "The question I now hear most often from managers … is not 'Why should we be sustainable?' but 'So what do we do?'(Kiron, Kruschwitz, & Haanaes, 2012, p. 70) .

Sustainability science is surely the science of "what do we do?" The problem expressed in the above quote "most often heard from managers" indicates "willingness". It also falls squarely into the field of sustainability practice.

> Sustainability practice concerns itself with complex issues like climate change that cannot be solved with simple solutions. Researchers addressing these issues refer to them as "wicked problems", issues that are multifaceted, hard to clarify and twisted into ecological, economic, social and cultural systems. To unravel current wicked problems scientists across disciplines are turning to transdisciplinary approaches (Smith & Lindenfeld, 2014, p. 182).

Before we examine what transdisciplinary approaches are and how to apply them to media production, a consideration of the "wicked problem" of sustainability communication and media is helpful. 'Good problems operate within defined rules: ones we can live and play with. Bad or

wicked problems are ones where the existing rules do not work' (Brown, Harris, & Russell, 2010, p. 141).

What should the affective features of this sustainability media be? How should it be produced? What should the content be? What creates the most effective messaging? How can we measure this? And when sustainability practice is applied to communication, how can we take the knowledge gleaned and inform those practicing sustainability? Finally, if media creates reality, certainly the production of sustainability media bears examination.

> The Institute for Sustainable Communication (ISC) is confident in the ability of new media "to increase the understanding of sustainability best practices and to assist individuals and organizations in adopting more sustainable print and digital media workflows aligns with Earth Day" (Godemann & Michelsen, 2011, p. 85).

Mass market messages of sustainability in media appeared to have had a great impact on the behavior and culture of Germany, for example, considered the world's greenest country (Norrick-Rühl & Vogel, 2013). But what does this communication look like, and what must be considered in creating it to have a desired effect? How are mass communications and individual stakeholders intertwined?

How Would Sustainability Practice Look at Communication?

A Wicked Problem

Sustainability communication is a highly debated pursuit (Godemann & Michelsen, 2011). The practice of sustainability as a profession is considered both interdisciplinary and transdisciplinary.

Interdisciplinarity, rather, has to begin at home, in one's own mind. It is connected with an ability to think 'laterally', to question what others have not questioned, to learn what is not known within one's own discipline (Mittelstraß, 2001, p. 397).

Interdisciplinary pursuit of knowledge barrows the methods and instruments of other fields to create a synthesis. Transdisciplinarity looks beyond any disciplinary boundaries seeking to understand the problem from a meta theoretical position in a unified worldview (Godemann & Michelsen, 2011). It requires an ingredient some call transcendence. This involves giving up sovereignty over knowledge and considers the know-how of professionals and laypeople rather than purely academic research and theory (Brown, V. A., Harris, J. A., & Russell, J. Y. (Eds.) 2010).

This leads us to efforts to integrate theories and views of sustainability as applied to communication, and the sibling field of environmental communication. Also, because of this very central tenet of the practice, there are many approaches when considering a theoretical orientation. Embracing the diversity and looking for patterns across fields of knowledge creates opportunity not only for "knowledge" but also for connections in relationships. In the article "Sociological Perspectives on Sustainability Communication", Karl-Werner Brand takes a look at the undertaking as a sort of observational sociologist. He takes a look at sustainability communication as it emerges in context. Brand embraces controversy as occasion for dialog.

> Nevertheless, sustainability remains a controversial concept, behind
> which there are different interests, conflicting views of the world and of
> nature as well as diverse understandings of development and societal
> regulation. There are basic controversies on ecological, social and
> economic questions of sustainable development, but each issue also
> produces a somewhat different constellation of conflicting parties with

> different opportunities to forge new cross-cutting discourse coalitions
> and political alliances (Godemann & Michelsen, 2011, p. 58).

Brand's perspective is particularly compelling because the conflict offers potentials for fresh perspective. In the debate there are options generated across disciplines. However, diversity also leads to opposing strategies of development (Luhmann, 1989). The diversity of perspectives is the thicket in which innovation finds communication through interpersonal moments of adoption. With all of these perspectives and strategies what can be done to make a coherent pursuit of sustainability practice?

Now we have a "wicked problem" to summarize:

- Sustainability science looks at the intersection of ecological, economic, social and cultural systems with transdisciplinary and interdisciplinary methods.
- Sustainability science can be applied to issues of communication and media to inform the practice of sustainability.
- When this process is engaged, questions form. How do we contextualize media into interpersonal moments to foster unique ideas of sustainable development?

Communication Theory Meets Sustainability Science

For this writer, general communication theory and basic environmental communication theory were reviewed and tabled for lack of a sustainability focus and transdisciplinary evaluation. In other words, general communication theory does not address sustainability science per se. Additionally, the overview of communication theory generally struck this author as not offering a specific practical guide or technical help for producing media.

(Anderson, 1996) analyzed the contents of seven communication theory textbooks and identified 249 distinct "theories," 195 of which appeared in only one of the seven books. That is, just 22% of the theories appeared in more than one of the seven books, and only 18 of the 249 theories (7%) were included in more than three books. If communication theory were really a field, it seems likely that more than half of the introductory textbooks would agree on something more than 7% of the field's essential contents. The conclusion that communication theory is not yet a coherent field of study seems inescapable (Craig, 1999, p. 120).

What Craig does in his analysis of communication theories is pursue a position that all theories have relevance to a dialog. Particularly he notes that communication theory hasn't formed into a field because theorists haven't found their way out of the disciplinary practices that separate them (Craig, 1999). In summary, when we review communication theory as a field, there are many voices in conversation. Each is informative. By what process can we integrate all of these perspectives? Perhaps our discussion of interdisciplinarity and transdisiplinarity can shed some light on this.

Diffusion Theory Meets Developmental Communication

Early research into the effect of mass communications suggests that new ideas spread interpersonally. This is described as diffusion theory (Rogers, 2004) . Diffusion theory, popularized by Malcom Gladwell's book *The Tipping Point* (2006), considers the role of moments in the advancement of a new idea that culminate in widespread adoption.

Jan Servaes' work on developmental communication has been particularly influential on grasping a trans/inter-disciplinary theoretical frame. The integration of development and communication is a hallmark of Servaes. We base much of this paper on this astute integrative work.

> Mass communication is important in spreading awareness of new
> possibilities and practices, but at the stage where decisions are being
> made about whether to adopt or not to adopt, personal communication
> was far more likely to be influential (Servaes, 2008, p. 167).

Here, Servaes examines the role of diffusion as it is applied to development and concludes that personal relationship is most effective in producing the behavior changes required for success.

Diffusion theory holds that the combination of mass media and personal appropriation of messages are what moves innovation in society. Servaes view of diffusion argues that participation in the creation of the media by the community is most effective and that mass media augments and supports the dissemination of the knowledge of the community to foster development. So then a consideration of mass communication media contextualized to carry an interpersonal message of sustainable development starts to form.

Integration Through Sustainability Science

To bring some focus to the discussion, the aim of sustainability science is to create "useable knowledge" (Lindenfeld, Hall, McGreavy, Silka, & Hart, 2012). Most sustainability scientists focus on bringing together concepts of interactions between human well-being and ecosystem; "the present and the future; knowledge and action; local and global; theory and practice" (Lindenfeld et al., 2012, p. 24). There is an emphasis on engaging many stakeholders to develop a solution focus to research design. Science as usual has participated in creating our current global crisis. Sustainability science calls for a revision of science that requires participation among diverse perspectives, professions and institutions. To achieve its goals sustainability science must consider complex sociological as well as ecological interactions to discover how to work with communities in innovative ways (Lindenfeld et al., 2012).

Sustainability science as applied to communication, and specifically media development, should examine a wide range of perspectives in an effort to create guiding principles that are useful in practice to transform culture and its institutions.

This epistemological principle of integration of diverse sources of knowledge drives the focus of inquiry, not to go after pure theory integration and criticism of media by theory, but examine the effect and outcome of development as it is engaged by communication and influenced by it in context.

Additionally, this led us to pursue a more utilitarian consideration – a good question to follow would be to consider sustainability communication in context. Viewing sustainability discourse as it has taken place in a culture that has been transformed would be helpful to provide a basis. Dodds' paper "Towards a science of sustainability"' (1997) yields a concern with human well-being rather than merely ecological resource management or purely economic concerns. This brings us to a pursuit of progress defined by a cultivation of appropriate institutions and attitudes.

> The constrained optimization problem of this science of sustainability
> would be to identify social institutions and attitudes that optimize present
> human well-being within social and biophysical limits, while
> maintaining the ability of future generations to enjoy no less a level of
> well-being and satisfying our ethical obligations to the non-human world
> (Dodds, 1997, p. 108).

Dodds' perspective calls to the interpersonal in context, rather than merely an accounting or cost benefit analysis of our development efforts for sustainability. This interpersonal ethic of human

wellbeing sounds very much like Malcolm Gladwell's idea of a tipping point and communication diffusion as considered by Servaes.

Let us now consider Germany as an example of this effect of communication for development. Examining German communication prior and during the shift in its economy offers an opportunity to observe an existing "tipping point" amongst the German populace and its institutions.

Germany's Transformation

Germany's transformation into a leading sustainability economy was predicated by sustainability discourse in mass media. In the spring of 2007, a radical shift in German climate policies followed in response to the fourth IPCC report on climate change. Mass media in Germany took up the conversation. It's in this observation of the German discourse that Brand's perspective in the Godemann and Michelson text is particularly helpful.

> The climate issue, however, disappeared from the political agenda very quickly when the economic consequences of the global financial crisis became a top issue in the following year. The dependence on catastrophes, scandals and dramatic media events thus cannot provide a reasonable basis for a 'strategic', long- term sustainability policy (Godemann & Michelsen, 2011, p. 61).

While initially mass media carried the flag of sustainability in Germany, it became distracted by financial concerns. Mass media alone proves to not be a reliable partner in sustainable development. While bad experience might guide the public and policy makers in visible examples of air and water pollution, problems that cannot be directly perceived and experienced by the public lead to a problem of "self-defeating environmental policy success": where an impression

of environmental problems that have been addressed satisfactorily undermine policy action for less visible unsolved issues (Janicke & Jorgens, 2000, p. 613).

Additionally, the format of television itself has been criticized as unable to deliver the complexity that sustainability contexts demand (Norrick-Rühl & Vogel, 2013). Very high production standards and the economic consideration of the audience ratings has also been blamed for inadequate coverage. In essence it's a great deal cheaper to raise scandals in the nearby environment than it is to raise awareness about drinking water in remote locations.

Regardless of the transitory nature of mass media, studying it in the context of a cultural shift has value. The opportunity to learn from the actual patterns of communication prior to the transformation of the German economy is helpful in understanding the nature of effective sustainability discourse (Godemann & Michelsen, 2011). It is the public controversies on sustainability issues that give resonance in the world of the interpersonal. This appears to result in diffusion.

The analysis of German media conversation by K.W. Brand's chapter in the volume *Sustainability Communication* (Godemann & Michelsen, 2011, p. 55-68) shows the following understanding of different views on sustainability perspectives.
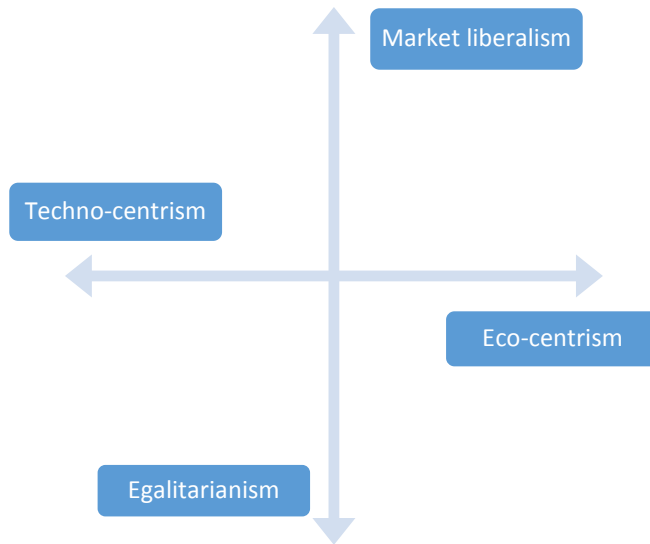
Figure 1 Dominant Frames in German Sustainability Discourse [Simplified] (Godemann & Michelsen, 2011)

The *vertical* axis of this chart shows different views of society and justice with "market liberalism" and "egalitarianism" at the two ends. Business representatives basically see the free development of a global economy and open world trade as the crucial component of sustainable development while international solidarity movements take an opposing view: they regard the power structures of unrestrained capitalism as the central driver of unsustainable development and call for a new, more just economic restructuring.

The *horizontal* axis of the graph shows a relationship between society and nature. The "techno-centrist" position at one end and the "eco-centrist" stance at the other. While the eco-centrist side calls for a deep respect for nature, the techno-centrist pole seeks technological innovations as the precondition for sustainable development.

A Dialogical Sociology of Sustainability Communication Analysis

Brand's review of sociological theories and analysis of the media discourse and institutional

practice describes an eclectic approach with a number of helpful insights. We follow each of

Brand's insights as they apply to the characteristics of the current project. This way we can

contextualize our project into the character of the German sustainability media discourse that

precipitated the transformation of the German economy.

(1) *Public communication is of central importance for forging new institutional practice that is oriented toward the idea of sustainability for guidance* (Godemann & Michelsen, 2011, p. 58).

In this project, placing media on YouTube creates opportunity to pursue sustainability education

by making the novel ideas of sustainability available in a widely public medium. We will argue

later in the paper for the specific placement on YouTube for our target audience. It's essential that

the communication is done "in the marketplace of ideas". YouTube is now the best placement for

public access of media on a global scale.

(2) *Institutional change towards sustainability requires problem frames that mobilize the public so that the ideas and stories of existing institutional practices can be called into question. It is a critical weakness of sustainability communication that this has been achieved only to a very limited extent and the traditional conversation of neo-classical economic growth remains dominant. Brand notes that though sustainability meets broad general approval the concept is too "diffuse" to mobilize a reform movement* (Godemann & Michelsen, 2011, p. 58).

Brand's use of the term "diffuse", should not be confused with diffusion as described by

Gladwell. Brand is discussing the complex nature of the green conversation and how it is difficult

to understand. Diffusion theory refers to interpersonal adoption of concepts transmitted through mass media.

The video media produced for this study addresses a specific call to action to engage the complexity of sustainability through graduate training. Emerging leaders will be equipped to address the "wicked problems" of institutional sustainable growth and environmental resource management. Rather than make an attempt to cover the subtlety of sustainability practice, a short-form video might only lead to more in depth resources to guide a viewer to explore the matter more fully.

The role of mass media for sustainability communication should be seen critically. On one hand, television has the potential to reach a broad audience, on the other hand, the complexity of sustainability communication conflicts with a mass media strategy of emotionalization in order to increase popularity (Norrick-Rühl & Vogel, 2013). Through the use of short-format video we attempt to bridge this gap by "pointing the way" to the richness that graduate education offers. Rather than attempt long-form documentary and increase the scope of the project we opted for a short video format.

(3) *"...sustainability communication can best be understood as a discursive field in which competing actors struggle for the power to frame sustainability problems in a publicly accepted way. " Brand is an observer of the conversation rather than a theoretician – describing social action and its intention* (Godemann & Michelsen, 2011, p. 58).

Sustainability issues in Malta are often in the local media as a "wicked problem" of power struggle, and competitive framing of the issues (Markwick, 2000). In this study controversial material was specifically avoided because of the short format. There just wasn't scope to wade

into this. Rather than review the contested details of Maltese development we hoped to attract students to a program where they might engage issues for themselves. The story that was told played up the strengths of the Maltese heritage and reputation as a jewel of the Mediterranean was featured. The complexity of sustainability issues were part of the story – creating an attractive and reverential call to study in an engaging eco-centric learning experience was another. The story was told by engaging the stakeholders in the educational program and allowing the frame to unfold itself through the dialog. This resulted in the images and dialog of the videos.

(4) *Additionally, Brand observes "If specific ways of framing problems define the range of possible and legitimate ways of solving them, then the question of which frames, images, and metaphors gain public acceptance is of vital importance for the kind of policies and measures adopted."* (Godemann & Michelsen, 2011, p. 59).

In our experiment, the images used are specifically explored for their communicative impact on the viewer both in content and affect. We made a comparison of video length and imaging. More specifics follow as critique which images are suited to sustainability communication and how to evaluate this 'goodness of fit'.

Our videos show several sustainability educators along with students portrayed in a conversational manner supporting the process and content of a sustainability program at the University of Malta. The story told was created by editorial of the stakeholders themselves. The narrative and imaging fits within Brand's schema of a market liberal eco-centric view. Included are interior shots of the statues of the Valletta campus and library. An august scholastic ceremony with professorial figures in black robes is included. There are outdoorsy looking academicians and students shown in grand natural landscapes. Shots of the Mediterranean cliffs with smiling

students overlooking postcard pretty bays of the blue lagoon. Included are colorful flowers,

vineyards and vivid red poppies. There are images of yachts in a marina and metropolitan areas of

statuesque beauty. All of these contribute to a frame of sustainability education as an

environmental science emanating from an established institution of ancient and modern authority.

The images highlight the key points of the interviewees and are associated with the

conversational tone of the instructors and students. Notably that the University of Malta and the

Mediterranean is a special place to come and study sustainability that offers a condensed

challenging program and a satisfying cultural and social experience.

The Field is Emerging; So What is One to Do?

In consideration of the plethora of perspectives, we focused on existing literature reviewers that

came to synesthetic understandings. We discussed the myriad of communication theories and

looked at practical insights from sociological observations of several competing views.

> … our work must go beyond critique and serve the productive ends of
> communication as well….The challenge today is to get their [the
> viewer's] attention and not be dismissed as boring (as nature writing so
> often seems) or depressing (as environmentalist politics tends to be)
> (Killingsworth, 2007, p. 62) .

Killingworth has a phenomenological understanding of an ethical duty to pursue environmental

communication. He argues for a tempering of the lofty discourse of communication theorists and

exposition of sociological observations, in order to communicate with utility and interest bringing

the message home to the physicality of the viewer's personal existence. We hope this can also

solve the dilemma Brand described of sustainability communication being too "diffuse".

"Diffuse" in this context meaning vague, hard to get hold of, or ill defined. Phenomenology is an

apprehension of ideas through personal experience. We can kick off tipping points by making the media interpersonally relevant.

When considering media production, this moves the endeavor to establish guidelines for content, editorial, and presentation. Boundaries need to be established to create in interpersonal connection to the communication. The images should connect the viewer with the audience. Production should be easy to understand and interesting. Choosing a channel for distribution would require access that is easily available for the viewer.   Killingworth outlines the "challenge today". In a world filled with media all looking for attention in a competing cacophony of messages, how are we to present information that is not brushed aside? What will bring interest? An admonition for utility, compelling content, and enjoyment is welcomed. With these requirements in mind, we will address assessment criteria that we can apply to video production.

Utility

Towards a Trans/Inter Disciplinary Rubric

Jan Servaes et al. (2012) has been using a useful format for understanding development projects which emerged from a review of assessment criteria of existing frameworks for communication for social change. The frameworks were chosen based on their review of several leading development projects. The assessment of each of the projects were based on two paradigms. The third listed below is not a distinct paradigm per se. This boiled down to the opinion that existing methodologies fall into three groups resulting from the two perspectives.

Rather than attempting a parallel application of many different theories or even choosing one to drill into extensively, we considered this overview and a practical rubric to evaluate sustainability communication from a high level. Here is an overview using fundamental concepts or building-block terms that could be generally agreed upon as guiding principles in sustainability. The

framework provides a way to evaluate our project and guides us to a practical outcome. It also gives indications about what to measure to indicate the success or failure of the work.

Paradigms

(1) A participatory paradigm, where community leadership and/or participation is key to the evaluation process;

(2) An expert-led paradigm, where external reviewers take the lead in evaluating the sustainability of the project at hand; and

(3) A mixed model, which emphasizes the participation of local community, but does not open every process of evaluation and monitoring to local community members or stakeholders.

(Servaes, Polk, Shi, Reilly, & Yakupitijage, 2012, p. 20)

Participatory Paradigm

Of the participatory paradigm, features emerged from six leading development frameworks. These were examined:

(1) Rockefeller Foundation's 1999 framework

(2) UN's 'five principles' indicators

(3) Communication for Social Change consortium's Participatory Monitoring and Evaluation (PM&E) framework (Parks et al. 2005)

(4) Oxfam's Rights Oriented Programming Effectiveness (ROPE) framework

(5) FAO's Participatory Rural Communication Appraisal (PRCA) framework

(6) The Integrated Model of Communication for Social Change (IMCFSC) framework

(Servaes et al., 2012, p. 20)

The essential similarities indicate that development practitioners should facilitate measures and methods with the most affected and involved. Measurement tools would be community based, simple, understandable, and measurable. This is a "bottom up" approach to development. A "bottom up" approach appeals to popular interest while it may take significant resources and time to achieve consensus. This respects the "Principle of Fairness" by allowing stakeholders to participate, contribute and benefit from the development (Phillips, 1997).

Expert Led Paradigms

In the expert led paradigm for evaluation and assessment, there were four leading development frameworks that the researchers took as precedent. These developmental frameworks were chosen as prominent and widely publicized examples supported by leading developmental institutions.

(1) UN's Millennium Development Goals (MDGs)

(2) UNESCO's International Programme for the Development of Communication (IPDC) Indicators

(3) World Bank Communication for Governance and Accountability Program's evaluation framework for governance

(4) UNESCO/UNDP Mozambique Media Development Project's framework for community radio (Servaes et al., 2012, p. 21).

Expert led development projects take their process and leadership from experienced actors trained and educated in their respective fields. This is a "top down" approach to leadership. While expert opinion may be considered and provide guidance, there are drawbacks. For instance, the Millennium Development Goals carry widespread criticism as vague, Western-centric, and lacking sufficient debate to practically achieve (Amin, 2006).

Focus on UNESCO

The UNESCO IPCD indicators are particularly germane to discuss as they address an analysis of media. While written by experts, the indicators provide a proclamation for the structure of free speech and its dissemination in the electronic age. This is a sort of handbook for developing nations and others pursuing a framework of free speech required by a functioning democracy. This provides a voice for people and resource for a "bottom up" development process.

UNESCO Media Indicators

(1) a system of regulation conducive to freedom of expression, pluralism, and diversity of the media;

(2) a level economic playing field and transparency of ownership;

(3) media as a platform for democratic discourse;

(4) professional capacity-building and supporting institutions that underpin freedom of expression, pluralism, and diversity; and

(5) infrastructural capacity sufficient to support independent and pluralistic media (UNESCO, 2008).

UNESCO Media Indicators Applied

(1) The UNESCO Media Indicators applied to our project require compliance with the Maltese and USA system of regulation both of the national laws as well as international law. Additionally they are required to suit the ethical and academic requirements of each university.

(2) Both universities supported the development of these videos in the expertise of the instructors involved and in the opportunity to use the equipment and facilities. Ownership is jointly maintained. The rights of the stakeholders are respected and upheld.

(3) The production allowed the opportunity for the stakeholders involved to freely voice their opinions about the video as well as make requests to view the material prior to publication. Additionally guidance of the faculty was respected as deliberation of the hosting and placement of the media was determined.

(4) Both universities offered support for the production and expression of the media.

(5) Both schools offered technical and material infrastructure.

UNESCO Summary

The UNESCO guidelines are specifically focused to "promote the free flow of ideas by word and image" ("www.unesco.org," 2014). The UNESCO Media indicators are a guide for protecting and establishing freedom of expression in all media forms. While carefully reasoned and expertly crafted, the document remains the proclamation of an NGO, having no legal authority on its own. That said, UNESCO's mission has seen enormous success especially in the last ten years. In 1990 only 13 countries had adopted national FOI laws, whereas now, more than 90 such laws have been enacted around the world.

> Freedom of Information (FOI) can be defined as the right to access information held by public bodies. It is an integral part of the fundamental right of freedom of expression, as recognized by Resolution 59 of the UN General Assembly adopted in 1946, as well as by Article 19 of the Universal Declaration of Human Rights (1948), which states that the fundamental right of freedom of expression encompasses the freedom to "to seek, receive and impart information and ideas through any media and regardless of frontiers" ("www.unesco.org," 2014).

As a side note, these indicators describe the YouTube environment which we will explore later more fully. YouTube has a system of regulation respecting media rights while making a space for diversity. The platform shows who is providing the media and so has transparency. It is free to

use while allowing content creators to additionally place media at a fee or benefit from advertisers by allowing ads in their content. YouTube provides built in tools for production of media and creating capacity for message producers. And, finally, because it is owned and administrated by Google it has international infrastructure to support the weight of planetary free speech.

The Rubric is a Mixed Model Synthesis of the Dialogic

The resulting framework maintains that both participatory communication and communication for structural and sustainable social change contribute to sustained community change. In other words, on one hand there was agreement that engaging wide participation from the local community and stakeholders was a key factor. On the other hand, time and cost may reduce the applicability of these indicators. Through the overview of currently established assessment criteria of existing global development, a set of indicators for communication in sustainability projects was used (Polk, Reilly, Servaes, Shi, & Yakuupitijage, 2010). The figure shows the rubric that was developed.

The Rubric

Indicators for sustainability	Sectors of development	Health	Education	Governance	Environment
Actors	Structural				
	Conjunctural				
Level	Local				
	National				
	Regional				
Development communication approach	Behavioral				
	Mass communication				
	Advocacy				
	Participatory communication				
	Communication for social change				
Channels	Face-to-face				
	Print				
	Radio				
	Television				
	Information and communication technology [internet]				
	Telephone/cellular Phone				
Process	Persuasion strategies				
	One-way transmission				
	Interactive dialogue				
Methods	Quantitative				
	Qualitative				
	Participatory				
	Mixed methods				
Message	Was it developed by the community?				
	Was it received?				
	Was it understood?				

Figure 2 Sectors of development and indicators (Servaes et al., 2012, p. 22)

Description of the Rubric

Polk et al, (2010) outlined four categories for sustainability evaluation of sustainability

developments, health, education, environment, and governance.   Additionally, eight indicators

were used to describe these four categories in detail.

> Eight indicators were selected to assess each of the categories: actors (the
> people involved in the project, which may include opinion leaders,
> community activists, tribal elders, youth, etc.), factors (structural and
> conjunctural), levels (local, state, regional, national, international,
> global), types of communication (behavioral change, mass
> communication, advocacy, participatory communication, or
> communication for sustainable social change—which is likely a mix of
> all of the above), channels (face-to-face, print, radio, TV, ICT,
> mobile/online), messages (the content of the project, campaign),
> processes (Diffusion-centered, one-way, information- persuasion
> strategies, interactive and dialogical), methods (quantitative, qualitative,
> participatory, or in combination), and our final indicator is the clarity,
> reception, and production of the message. We considered whether the
> message was developed by the community? Was it received and
> understood (Polk et al., 2010, p. 40)?

Each of the indicators in the above text are described and then applied to an analysis of the video

production created for this dissertation.

Articulation of the Rubric

While the quote above provides an overview of the meanings of the rubric categories, the application of the rubric to several projects provides an understanding of its practical usefulness. After a reading of several of these projects interpreted within these indicators (multiple citations required) what follows is this authors understanding of the questions one would ask when applying the scheme.

1) **Actors** - Who are the people involved in the project? In order for the project to be sustainable the design must consider all the stakeholders involved. How can we include as many stakeholders as possible in the development? What will their roles be? If actors are not empowered how can we empower them?

2) **Factors** – Structural and Conjunctural. What are the supporting issues that provide initiation and capability for the project? What resources allow the project to occur? What mix of issues work together to provide coherence and continuity? How can we use the factors available for the widest and most productive effect?

3) **Level** – What is the geographic size and targeted audience? What is the scope? Will our other indicators support the intended reach? Do we have the "factors" needed to enable our level of engagement?

4) **Types of communication** – What is the means and target of the development communication? Behavioral change of specific individuals in a community? Mass communication through media and ICT? Advocacy for policy reform or to pursue a course of sustainable action? Participatory communication involving stakeholders directly in conversation? Or communication for sustainable social change involving communities and culture (which is described as a mix of all of these).

5) **Channels** – How was the message disseminated? Radio, TV, Print? What media is used? Is the channel employed empowered through the action of our other indicators? For instance if we are doing a local radio broadcast as our channel - were stakeholders pursued to define the content and produce the media that is used on the radio?

6) **Messages** – What is the content of the project or campaign? What is the "thing" that is being communicated? What are we really saying? We are concerned with the clarity, production, and character of the messaging. How were these messages sourced? Are the messages developed for and by the community or target audience served? Are stakeholders indicating a need for this messaging?

7) **Processes** – How did the project impact on its message and action? One-approach would entail radio or television political spots, information-persuasion strategies and other personal sales pitches where the receiver can send feedback to the sender but the sender has a specific agenda to be adopted. Another approach is one that is interactive and dialogical, and where there is direct contact between the sender and receiver with fairly equal give and take.

8) **Method** – What are our measuring tools? How are we systematically applying our project? How do we fit our measuring to the development rather than how do we fit our development to the measure. In other words our tools to determine success should address the project at hand rather than try and fit our projects to an existing assessment methodology that might not apply in the current situation. Does our method allow participation by those effected through a qualitative tool? If quantitative are our results understandable to the stakeholders? How can we involve those served by the development in the measurement process?

Application of the Rubric

Using the rubric described, we will not apply it to the short form videos that were produced.
The rubric functions as guidance and assessment. If a project can be classified into the rubric, it
follows that it is a developmental project fitting into a sustainable format.

An analysis of the project from the rubric follows:

1) **Actors**

   The main actors of the video are the professors and students being interviewed.
   Additional actors include the producer, myself a student from the US, and those involved
   in production – the cameramen/videographers, both Maltese. Moreover, the senior
   producer of the video, the program director, who initiated it, is also Maltese. Two of the
   professors interviewed are Maltese and one is American. The two students interviewed
   are US citizens: one from the continental US the other from Puerto Rico. Additionally the
   intended audience is involved by measuring its interest through a survey.

2) **Factors**

   The structural and conjunctural factors, or the closest and most immediate supporting
   factors for the projects initiation, was primarily the benefit to myself as a dissertation
   project. The video also benefits the university(s) as an opportunity to facilitate the
   creation of a tested marketing tool for the program. These interests intertwined to create
   an impetus.

The enjoyment of the production for the staff and the interview process itself seemed to offer supporting factors for participation of the interviewees both students and professors. Structurally the media support offered by the communications department included executive oversight by the dept. chair, 2 staff members as well as a video camera, lights and a computer configured with edit software. The technology infrastructure available made for a quality production. Additionally conveniences such as the staff's personal passenger vehicles and roadways allowed transportation to the locations. These luxuries taken for granted in most developed nations contribute though a multiplicity of factors to enable the project conjuncturally.

3) **Level**

Level benefits include the propagation of the benefits of education in Malta as well as a contextual study of the wider region of the Mediterranean. The placement is in the EU for the joint benefit of the international association of the two Universities (James Madison and The University of Malta).

4) **Types of communication**

The type of communication is advocacy. Specifically, the videos are designed to advocate for sustainability education, and make potential students aware of the graduate program – and thus the concept of sustainability as a career path. The channels are local viewing by staff and faculty and placement on YouTube for international access. Additional channels include email for the advisory committee and international graduate administrator to review. Emails were sent to the final year class of both the University of Malta and James Madison University. Other channels include the face to face interview format and dialog with the professors and students of the program.

5) **Messages**

The messages of the video are a description of the content of the program from the

perspective of the interviewed professors and students, and a description of the

application process, which also functions as a call to action. The messages of the video

also include the framing of the video described previously. The imaging and the dialog in

the one minute video and the three minute video complement each other to attend to both

the affective and cognitive responses of a viewer. The dialog functions to describe an

overview of the sustainability program from the professors and first hand testimonials of

the students to the satisfaction and enjoyment of the experience. Additional messages

include the credits for the video production and a link at the end of the video to more

information about the graduate program.

6) **Processes**

The process is an interactive placement for viewing, as well as, a link to complete the

survey instrument. The process of video creation itself required emailing and

coordinating the details of camera location shots – coordination of the dissertation

proposal itself with the Board of Studies. It involved a review by the ethics committee,

determination of the hosting of the video, coordinating with the registrars of both schools

to initiate emails, and invitations to the professors of both departments to send emails to

their students.

7) **Method**

There was an interesting trend in the response rate for the study. A standard mail out from the registrar of both schools didn't appear to be very effective at recruiting folks. Of 2041 emails sent by the Maltese registrar 18 usable surveys were obtained. Of 2270 emails sent by James Madison University's registrar 20 useable responses were obtained. These rates of response were similar across the two Universities.

 In an effort to boost the reliability of results a local appeal was made by a Maltese professor for survey response from a specific class and a high percentage of the students 20 out of 35 completed questionnaires. This was a considerably different response. Perhaps personal methods for response get a better response. The personal request of the professor as well as her appearance on the thumbnail of the video on the survey page may also contributed to the higher response rate. This compared to the American instructor's invitation is interesting as only 1 student responded both to an additional email of 400 junior and senior students as well as a personal appeal by the instructor to 30 students in class. Certainly this response rate difference in the personal call of the two instructors bears consideration.

Originally a focus group was planned for a qualitative review and though 505 emails were sent as an invitation - none replied. This was curious given the registrar reported an anecdotal response rate of 30% – however, following sustainability principals potential stakeholders were invited to participate in a local viewing. Maybe a higher response rate would have resulted from offering some small incentive to attend the focus group. Or perhaps a more personal appeal could have been made by a well-known professor to a wider audience. Qualitative results could be explored more fully in the future.

The method of the video is a call for prospective students to explore more information and an invitation to apply. The methods of the study itself are quantitative and detailed below.

8) **Clarity**, reception, and production of the message

The focus of the study is primarily on the clarity, reception, and production of the video. In other words in creating the video the task was to be clear and straightforward, and easily understood with no hidden meanings. The production of the video was made with HD video equipment and edited in Final Cut Pro. The production included titling in a manner consistent with other professional television of this educational tone. One special effect was used to highlight the compressed nature of a one year master's program. This included a montage of shots sped up from two locations in Malta that are iconic and easily recognizable – the beach front walkway in Sliema along the Strand as well as the streets of Mdina leading through the city to overlook the countryside.

 To find out if a message is easily received, the audience must respond. The study is to determine if the message is received and understood.

The Rubric Applied to the Production

Indicators for sustainability	Sectors of development	Health	Education	Governance	Environment
Actors	Structural x		x		x
	Conjunctural x				
Level	Local x		x		x
	National x				
	Regional x				
Development communication approach	Behavioral		x		x
	Mass communication x				
	Advocacy				
	Participatory Communication x				
	Communication for social change				
Channels	Face-to-face x		x		x
	Print				
	Radio				
	Television				
	Information and communication technology [internet] x				
	Telephone/cellular phone				
Process	Persuasion strategies		x		x
	One-way transmission x				
	Interactive dialogue x				
Methods	Quantitative x		x		x
	Qualitative x				
	Participatory x				
	Mixed methods x				
Message	Was it developed by the community? x		x		x
	Was it received? *See Study results*				
	Was it understood? *See Study results*				

Figure 3 Rubric applied to this project.

The Goal of the Study

The goal of this study was to devise a means of assessment for short-form videos that carry

sustainability messages. Short-form video was pursued because the researcher had experience in

the development and production of short form-video media. Also, that format has shown a

particularly dramatic rise through the propagation of YouTube.

Charting the Rise of YouTube

YouTube embodies many of the key elements of sustainability development. It offers a platform

for the creation and publishing of media to a wide audience at a low cost. This capability is

relatively recent in the development of media forms and has become ubiquitous in first-world

nations – it enables opportunity in third-world nations when coupled with other integrated

communications technologies and micro-finance (Visconti & Quirici, 2014).

Some facts about YouTube's reach:

- More than 1 billion unique users visit YouTube each month.

- Over 6 billion hours of video are watched each month on YouTube—that's almost an

  hour for every person on Earth.

- 100 hours of video are uploaded to YouTube every minute.

- 80% of YouTube traffic comes from outside the US.

- YouTube is localized in 61 countries and across 61 languages.

- According to Nielsen, YouTube reaches more US adults ages 18-34 than any cable

  network.

- Millions of subscriptions happen each day. The number of people subscribing daily is up more than 3x since last year, [2014] and the number of daily subscriptions is up more than 4x since last year [2014].

("statistics @ www.youtube.com," 2014)

In regards to our target audience 92% of 18-29 year olds watch videos on a site like YouTube or Vimeo (Purcell, 2013).

From these figures it is clear that placing the video on YouTube was the best place to host the media which was to be directed to final year university students in good educational standing.

Other reasons for hosting on YouTube include 1) the standard and recognizable interface design, 2) The reliable streaming internationally, and 3) the ease of use in uploading, managing, and placing the video in the questionnaire web site. While the purpose of the study was to focus on the themes of the video itself, it should be mentioned that YouTube videos generally have a social component.

The length of YouTube videos is another aspect of the service. 20% of videos are within one minute, which is the largest group of any duration. The next group is between three and four minutes and contains about 16.7% of the videos (Cheng, Liu, & Dale, 2013). The average length of a YouTube video is three minutes and 53 seconds. The average length of local television news spots is 68 seconds, and two minutes and 26 seconds for national network packages (Pew Research, 2012)

Choosing short-form video for the study fit the scope of time available for the dissertation. The target production lengths, given the video lengths and watching habits of internet users, were approximately one and three minutes based on the above.

Production

Team of Stakeholders

 The video was produced by a team including the director of the international graduate program and the faculty of the two universities. Additionally media department administrators and a media instructor provided technical support. The communication department dean contributed in an executive manner as well. Two students and three instructors were interviewed that take part directly in the program appear in the videos.

Video Acquisition

Video was shot around the island of Malta and on Comino. Both a professional camera and a cell phone camera were used. Some 13 hours of video was captured. The three videos in the study were part of a larger project of 7 videos meant to be placed online for the promotion of the International Graduate Studies program of the University of Malta. Each of the interviews collected were a half an hour to an hour long. In an effort to emulate broadcast production a fair sized library of original "b-roll" or secondary footage was collected to "fit" to the subsequent conversations with interviewees. For example, the special effect sequences shot with captures of the Sliema bay promenade and interior shots of Msida were taken prior to a student's remarks about the brevity of the program.

Content of the Videos

When viewing video material, it is assumed that an individual will have some sort of emotional response to the material which will surround the content portrayed (Hartmann & Apaolaza-Ibáñez, 2010). The videos edited are intended to set a scholarly and positive affective tone that would lead the viewer to inquire further into and about the program. The material is designed to cover sustainability concepts in Malta in either a one minute or three minute format. As 60 second videos are standard in television and have created an expected experience, two one minute videos were also produced. The first one minute video 1a contains imagery illustrating the narrative, like the three minute video but shortened. The second one minute video 1b contains only "talking heads". However the nature of the content seemed to also indicate that a longer introduction video might address a viewer's requirements for adequate exposure to the material (Kaid & Sanders, 1978).

Each format was devised for the sake of having a product to test via questionnaire. In other words it is general practice in video production to include images related to the content being discussed by an interviewee, but for the sake of the comparison different formats were edited in an effort to examine the efficacy of this in sustainability communication media. Additionally the images and editorial was more carefully devised perhaps than in a commercial project – where time constraints and budget concerns limit shot acquisition and production. This capacity might

increase though in subsequent efforts as facility with sustainability application might increase with practice.

Editorial Choices

Editorial choices for the videos were made that attended to the producers personal work experience in professional settings creating media for commercial use. The aesthetic of the video images followed the interviewee's responses. Sound bites and brief statements of those interviewed were edited from extended takes with an intention to communicate the salient features of the educational program. This created a narrative that evoked the concept of sustainability as well as a contextualization of the message for the graduate program. The media development was based on the researcher's interactions with the community that was the subject of the video as well as being a student of the program. Graduate level sustainability education promotion was selected as the message because of its opportunity for far reach, by attracting others to the field who might also carry a message of sustainability. From the beginning of the shooting and production of the video to the editorial and placement on YouTube sustainability concepts were in mind.

These included interviews with key stakeholders of both student consumers and faculty experts. Those interviewed were not scripted but instead asked merely to tell their story based on a number of questions given to each interviewee beforehand. The questions were a way to foster conversation and elicit candid information. No details about the subject matter were included in the questions.

Questions for Interviewees

Here is a list of the questions for both the instructors and the students of the program as well as comments about each questions in parenthesis to offer a basis for asking them. The actual content included in the videos was a function of the quality of the responses to questions – the presentation of the interviewee – and the appearance of the shot. Choosing the "best responses" was a subjective effort during editorial and was informed by the "gist" of interviewing stakeholders and what they appeared to be more passionate about.

Questions for Instructors

Here's a list of questions to generate conversation for our interviews.

Remarks for preparation: We will go through these questions after our interview and edit the video of your responses. We endeavor to make you look positive, strong and professional :). So we will take your best remarks and give the interaction a polished presentation. Don't worry about preparing too much - these questions are just to get you thinking about these things and put them on your mind before the interview. Rather than an academic test this is a chance to make your program shine. This is not investigatory journalism - this is a supportive promotional piece.

What's the backstory of this program how did this get started?
This question was asked as an icebreaker and to give the interviewee an opportunity to remember the excitement of starting the program and say something about its history.

Who are the major players in the design of the program? Why were they included?
This question was asked to get information about key stakeholders in the graduate program and if possible when combined with the answer from question 1 provide some history and context in the

video for viewers. It also provided a basis to allow environmental media supporting the

conversation to be show as an opportunity to highlight the concepts discussed.

Who are you looking for in an applicant?

Identifying the features of an applicant might be used in the video to clarify if the viewer might

be suitable for the program.

What can a student expect in terms of work load?

Although the response to this question was not used in the video due to time constraints this was

an opportunity to elicit content about sustainability. After proceeding through the study perhaps a

more focused question concerning course work content might have been better.

Is there room for self-direction or is the program entirely decided? Or a combination?

This question was to give the interviewees a chance to discuss how the study incorporated student

involvement. And provide the tone for a viewer about how personal interactions might go with

instructors.

What does a typical day look like?

This is a question intended to get the context of the study for a viewer – to give them a snapshot

of what to expect when attending. Although none of the content of this question appeared in the

videos – it was a way to foster conversation.

Why come to Malta? What does the University here offer that makes this study effective?

The context of study is intrinsically important for a viewer to know, additionally if this

information is passed to a viewer they can in turn offer this information to others who might be

interested, it is the contextualization of the information for the target audience that can create

diffusion or move the message along interpersonal channels.

Is there support in finding a place to live when arriving in Malta?

Since this is an international program it was thought that viewers would like to know what

support they might expect when traveling to an island country. Finding a place to live in a new

study environment is an important part of this transition.

What success stories are there for people who have completed the program? What jobs have your

graduates found?

Having some background on previous students could be a motivation to attend a program –

although this information was not included in the videos.

Is there any interaction after the program has completed?

Knowing if there a support services after attending a graduate program is relevant to

a prospective graduate student.

What's the funniest thing that's happened? What challenges has your program faced?

These questions were asked to give the instructors an opportunity to share a personal story or

vignette to viewers. This was hoped to create positive affect and offer personally relevant content.

Any closing remarks or advice to potential grad students looking to come to Malta?

Giving instructors an opportunity to share personal advice to non-Maltese potential students might have given us relevant material to use in the video.

Questions for Grad Students

Below is the text that was emailed to the Student Interviewees prior to the interview with comments.

Here's a list of questions to generate conversation for our interviews.

Remarks for preparation: We will go through these questions after our interview and edit the video of your responses. We endeavor to make you look positive, strong and professional :). So we will take your best remarks and give the interaction a polished presentation. Don't worry about preparing too much - these questions are just to get you thinking about these things and put them on your mind before the interview. Rather than an academic test this is a chance to make your program shine. This is not investigatory journalism - this is a supportive promotional piece.

What first attracted you to the international graduate program in Malta?

As a consumer of the program the students were asked this question to find the initial positive affect related to attending.

How did you first find out about the program?

Knowing how the message of the program seemed relevant to identify the channels that were effective to existing students – at this point in the study knowing how the message had already been propagated in obtaining a successful applicant was interesting. Additionally this fostered the student's memories of why they were involved in the first place which would be important for a prospective student to know.

Was the application process difficult?

A student's reply to this question might put a prospective applicant at ease.

How did you feel when you found out you were accepted?

This is an opportunity for positive affect to be communicated.

What sort of planning did you have to do to come to Malta?

The content of this information might show a future student what to expect and help them to make a decision.

Where do you live here?

This information offers specific information/cognitive content about the context one can expect in personal terms.

What are your classes like?

Describing classes could make for clarity in the interest level of a viewer.

Do you like your professors?

This question was intended to bring hope to a viewer that the program would be enjoyable.

Is the school work challenging?

Challenging work was thought to be a positive aspect of a graduate program.

Do you like the campus facilities?

Feelings of enjoyment about one's environment are a compelling reason to attend a school.

What's your favorite thing about going to class? What's social life like?

These personal opinions could foster positive affect in a viewer.

Do you feel like you are being prepared to enter a career? Tell us about your dissertation. What are your plans from here?

These questions again were intended to prompt positive affect and key information that would be important to a prospective student of the program.

What advice would you give to a prospective student coming to Malta?

Out of all the questions, the answers to this final question seemed the most compelling to the researcher. In both cases it elicited a glowing personal call to action from the student being interviewed. These answers were full of enthusiasm and terse – which made them perfect for a short form video.

Research Scope

After producing the three short-form videos, a comparison experiment was created that involved the distribution of four sets of questionnaires to two different universities. An opportunity to produce a YouTube video with an accompanying articulation of academic research and a definitive production design rubric seemed to fill the existing gap in the body of scholarly knowledge on the subject of practical sustainability communication.

Methodology

What are the hypotheses?

Video 1a is 82 seconds long and has images of instructors and students. The video also incorporates images of the Maltese bio-trope and university environment, illustrating the talking points made in the narrative. Video 1b includes "talking heads" (3/4 images of those being interviewed), it is 83 seconds long, and has no illustrative environmental scenes. Video 2 is two minutes 58 seconds long and also has images of the environment to punctuate the narrative and provide pictorial representation. Environmental images pictured in two of the videos (Video 1a and Video 2) are compared with a video with no such environmental images (Video 1b).

Hypothesis 1: There is a statistically different response from the control group to the one minute video(s) and the three minute video in the areas of positive affect and content regarding the MSc program.

Hypothesis 2: Video 1a shows less positive affective influence and content retention than the Video 2.

Hypothesis 3: Video 1a shows higher positive affective influence and content retention than Video 1b.

We argue that the issue of sustainability requires more than a simple one minute commercial format for effective introduction (Kaid & Sanders, 1978). While viewers in most developed countries are sensitized to approximately one minute formats in video watching, a program of study entails a greater commitment from the viewer than a consumer product or service. While the one minute format may produce some curiosity and positive affect, the content available in the three minute video requires more complex decision making, which it is believed will be facilitated by the video's content, creating a higher response rate. The intended end result is for interested viewers to request and receive more information and to persuade potential candidates

to seek application to the program. Additionally the framing of the images is thought to create an attractive, engaging story for the viewer and as a result create positive affect and content retention. The study findings may offer a recommendation of the best way to achieve this result.

Affect and Content Retention

When viewing video material, it is assumed that the individual will have some sort of emotional response to the material which will surround the content portrayed (Hartmann & Apaolaza-Ibáñez, 2010). The videos edited are intended to set a studious and positive affective tone that would lead the viewer to inquire further into the program.

As discussed in the paper, sustainability communication could be addressed on several dimensions - for instance, the level of stakeholder engagement could be focused on, the coherence of the message with stakeholder opinion might be compared, the level of personal engagement by viewers could be assessed, and these all could be measured.
 However the primary utility of the YouTube videos themselves after the study had concluded was to design an effective and tested YouTube advertisement for the MSc program.

>…affective and cognitive responses are generally considered today to be the principal mediators of the effects of advertising strategies on persuasive outcomes derived through advertising (Chaudhuri, 1996)**.**

Indications from research on advertising lead us to address two dimensions: affective responses, and content retention or cognitive information. Affective in this study refers to the quality of "goodness" or "badness" experienced as a feeling state (Slovic, Finucane, Peters, & MacGregor, 2007). These two dimensions will also provide a measure of whether the message was "received and understood" as described in the rubric.

The Study Method

The videos were edited to include sustainability experts' responses in videotaped interviews regarding the content of the program. In addition, students from the program who were interviewed for the video offered positive affect and content.

The content of the videos covers basic concepts of sustainability as well as providing a setting and information as to what is required for admission into the program. The videos feature an attractive and colorful natural and cultural environment, illustrating the narrative to highlight the concepts communicated. Views around Malta are employed to facilitate the concepts spoken of and to create intrigue and curiosity in the viewer. Research shows that lush green environmental images and water are preferred when incorporated (Hartmann & Apaolaza-Ibáñez, 2010).

The questionnaire content items address the key concepts covered by each of the interviewees. A three minute video was produced and the one minute videos were edited from that. The dialog was shortened at natural breaks in each interviewee's speech to reach the intended duration. The same general content is presented in each with the three minute video providing more elaboration.

The study included a control group of no video who was simply directed to complete the survey without seeing any video, a group that viewed the one minute Video 1a, a group that viewed the

one minute Video 1b, and a group that viewed the three minute Video 2. The questionnaire was administrated to all the groups. As the intended placement of the video will eventually be for online marketing purposes, the video was viewed online and the questionnaire was also administrated electronically.

Other Remarks

During the placements of the video some issues arose that require a remark here. The SERM program changed its name and some of its requirements during the course of the video production – these changes were not formally transmitted and discovered in casual conversations. As a result the titling of the videos was changed and this created some confusion when posting the multiple formats for the surveys as the new edits were virtually indistinguishable. Some of the text that appeared in one of the videos was different from the other videos. The specific appearance of the text seemed trivial to the study. The rest of the content of the videos was the same. However it's important to note that shifting requirements of educational institutions offer a challenge for remaining current.

Additionally the thumbnails that resulted from placement on YouTube appeared to not have been saved as intended. So the cover pictures of the videos of the registrar groups and the Maltese instructor varied slightly. The difference in this case may have contributed in the higher response rate of the Maltese instructor invitation than the American instructor's invitation – as a picture of the instructor was actually on two of the video thumbnails.

Video length was also intended to fit the highest proportion of videos on YouTube (Cheng et al., 2013). The measurement was not of viewer attention span but of the content and affective

responses of the viewers after completing a video. Perhaps a random audience might not watch these videos from beginning to end or even be attracted.

The Questionnaire

The questionnaire is constructed using an affective portion (Likert Scale) as well as a multiple choice content portion (assigning a two-way scale: 1 for a correct score; and 0 for all the others). The four group results and the hypotheses were tested using the Kruskal Wallis test in the absence of normality. The Chi square test is used to assess the association between each of the five questions having categorical answers with Group (categorical variable). The questionnaire instrument was original and designed in conjunction with the dissertation supervisor and adjunct.

The questionnaire is included with a rationale for each item. The first six items are affective. The content measure is covered in the questionnaire in items seven through eleven.

QUESTIONAIRE – With conceptualizations / comments.

6 Affective Items – Because the questions are specific to Malta these items may also help to discriminate between American and Maltese viewers.

1) Do you feel positively about doing your part for recycling in Malta?

Less positive 1   2   3   4   5 More positive

Neutral

Recycling is a well-known indicator of sustainability, positive affect about recycling may correlate to viewing educational material about sustainability. "Doing one's part" being an indication of an intention to pitch in and take responsibility.

2) Do you see hope for the Maltese natural environment?

Less hope 1   2   3   4   5 More hope

Neutral

Hope for the natural environment may be an affective measure that would be raised by viewing these videos. While the videos don't mention the future of the Maltese environment specifically, perhaps an exposure to a video about such a graduate program will be encouraging.

3) Are you more likely or less likely to apply for the Sustainability and Environmental Resources Management (SERM) university program?

Less Likely 1   2   3   4   5 More Likely

Neutral

An aptitude for application to the program is an emotional response that we hope to increase through viewing.

4) Are you more or less interested in studying energy use in Malta?

Less Interested 1   2   3   4   5 More Interested

Neutral

Interest in energy use is a sustainability topic that perhaps will raised by viewing the videos.

5) How positive do you feel about studying sustainability in the marine environment in Malta?

Less positive1   2   3   4   5 More Positive

Neutral

Positive feelings regarding study of the marine environment may be increased through viewing the images of natural water attractions in the video paired with the interviewee opinions.

6) Are you more or less likely to study issues of population density in Malta?

Less Likely 1   2   3   4   5 More Likely

Neutral

Self-reported likely hood of population density study would be a salient feature of measure. The video's imagery and pairing with the instructors remarks may influence the affect of a viewer.

4 Content retention / Cognitive Items - Each of these questions pertains to information presented in both of the videos. Comparing the answers from each of the videos was thought to identify if watching the videos would impact the content that was answered by those surveyed. The one minute video(s) has the content in shorter form and the three minute video elaborates.

7) What issues are there in Sustainability that you know of impacting Malta?

Pollution

Population Density

Limited Resources

Environmental Management

Marine Issues

Litter

Over fishing

Traffic Congestion

Wildlife Endangerment

Air Quality

All three videos have the following statement: Which is a bit different than the issues mentioned specifically in the survey, "Urbanization, Pollution, and Environmental Protection" The three minute video includes the following additional line "We have limited resources. We have a very dense population. We have several issues that have to do with sustainability." It was thought that those who checked less issues might be those that watched the one minute video(s) It was also thought that those who watch the three minute video would check more of the issues than those who watched the one minute video(s). And though the wording is not exact Marine Issues, Litter , Over fishing, Traffic Congestion and Wildlife Endangerment would be selected less than: Pollution, Population density, Limited resources, Environmental Management, and Air Quality. Because these concepts were mentioned in the three minute video.

8) What language is the Sustainability in Environmental Resources Management Program taught in at the University of Malta?

English Maltese Italian Arabic

All three videos specifically mention that the Program is taught in English.

9) What do you think that the duration of the program is?

1 year 2 years 3 years

All three videos specifically mention that the program is 1 year.

10) What application process do you think there is for entry into the program? Circle all that apply.

Letters of reference

GRE

Transcripts

Large Application fee

Small Application Fee

None of the above

The one minute video(s) do not mention the details of the application

Letters of reference and a small application fee were mentioned in the 3 minute video, the GRE is

specifically mentioned as not being required.

11) What nationality are the majority of student's that apply for the program? Circle all

that apply

Maltese American International German Italian Chinese Norwegian UK South American

Japanese

All of the Above

The majority of students that apply for the program are specifically mentioned to be Maltese and

American in all three videos.

Survey Population

Emails were sent out from the registrars to both James Madison University (JMU) and The

University of Malta (UOM) inviting final year college students to respond to the surveys. There

was no incentive in these emails to respond from the registrar. The JMU students received the

same email a second time and the Maltese were sent the email only once.

Another batch of emails was sent out from instructors from both Universities. The Maltese

instructor invited a group of 35 students.

The JMU instructor's batch of emails included 468 juniors and seniors in the three majors (ISAT,

GS, IA) that fall within the department of integrated science and technology. Additionally the

JMU instructor personally invited 30 students to respond.

Email Cover Letter

The cover letter to the email appeared as follows:

Participate in a sustainability research study!

CLICK THIS LINK TO PARTICIPATE: http://eSurv.org/online-survey.php?survey_ID=LHKHJN_8b5b060

Identification of Investigators & Purpose of Study

You are being asked to participate in a research study conducted by Bryan Ogden, who is reading
for a Master of Science, a dual degree of the University of Malta and James Madison
University. The purpose of this study is to determine the efficacy of a number of videos. This
study will contribute towards the researcher's Master's dissertation.

Research Procedures

This study consists of an online survey that will be administered to individual participants
through an online survey tool you may or may not be asked to watch a 1-3 minute video. You will
be asked to provide answers to a series of questions related to the efficacy of online video
viewing

Respondents

2270 JMU students were divided into 4 randomly assigned evenly distributed groups and sent a

the email linking them to either the 1 minute video with no environmental features, the 1 minute

video with environmental features, or the 3 minute video with environmental features. 3

respondents completed the survey on the 3 minute video page, 5 respondents completed the video

on the 1 minute video with environmental features page, 5 respondents completed the survey

questions on the 1 minute video with no environmental features and 7 responded to the survey

that had no video.

In the Maltese mailer four randomly assigned groups of 2041 students were as follows: 510

students were sent the email that directed to the survey on the three minute video page, 507

students were sent the email that directed to the survey on the one minute video with

environmental features page, 511 students were sent the email that directed to the survey on the 1

minute video, and 513 students were sent the email that directed to the survey that had no video.

One respondent completed the survey on the three minute video page, six respondents completed

the video on the one minute video with environmental features page, two respondents completed

the survey questions on the one minute video with no environmental features and 12 responded to

the survey that had no video.

The Maltese Instructors students responded as follows: six respondent completed the survey on

the three minute video page, seven respondents completed the video on the one minute video with

environmental features page, seven respondents completed the survey questions on the one

minute video with no environmental features and four responded to the survey that had no video.

The JMU instructors mail outs were also randomly distributed into four evenly divided groups and received one respondent for the three minute video – this response was discarded as it had no others to compare with in its own group and was not sufficient for analysis.

Statistical Analysis of the Results

The null hypothesis specifies that the mean rating scores provided by the groups are comparable and is accepted if the p value exceeds the 0.05 level of significance.
The alternative hypothesis specifies that the mean scores vary significantly between the groups and is accepted if the p value is less than the 0.05 criteria.

The Kruskal Wallis test will be used for the first 6 questions and the chi square test will be used for questions 7-11. The Kruskal Wallis test will be used to compare mean rating scores providing for a statement between several independent groups. These groups will be clustered either by nationality or by the length/environmental features of the video that was displayed if any.

<div align="center">Interpretation of Results</div>

Affective Scores Combined Across Nationality to Compare Videos

While none of the p values in this test were significant, p values are heavily dependent on the sample size. It is very unlikely that the p value will be close to the .05 criterion for significance when the sample size is small unless the difference between the mean rating scores are large. In this case mean rating scores did not differ greatly. However, remarks can be made about the trends. Generally the mean rating scores of affective response were higher in the groups that watched the videos with environmental features. The three minute video perhaps was slightly higher. It is interesting to notice that the scores for the no video group and the one minute video

group with no environmental features were comparable, and a small trend can be seen in those who watched no video over those who watched the video with simply "talking heads".

While again these trends are not significant, perhaps there is a small indication of positive affect when environmental features are displayed in short form video. Perhaps there is even a small negative affect if only "talking" heads are presented vs no video at all. These results can be seen in comparing mean scores in the bottom most table of all scores combined across nationality. Additionally the trends are displayed in the bar graph.

Table 1 shows the six affective questions by viewing group. It should be noted that all mean rating scores range from "1 – 5" where "1" corresponds to a negative aspect (such as strongly negative, more doubtful, very unlikely, very disinterested, and very negative) and "5" corresponds to a positive aspect or attribute (such as strongly positive, more hopeful, very unlikely, very interested, and very positive). The total responses for all mail outs were combined and the following was calculated for the 58 respondents to the surveys.

58 responses from all surveys in the four video groups.		Mean	Std. Deviation	P value
Do you feel positively about doing your part for recycling in Malta?	1-minute (talking heads)	3.50	1.019	0.198
	1-minute (environmental features)	4.11	0.758	
	3-minute (environmental features)	4.13	0.641	
	No video	3.67	0.907	
Do you see hope for the Maltese natural environment?	1-minute (talking heads)	2.71	1.267	0.287
	1-minute (environmental features)	3.33	0.970	
	3-minute (environmental features)	3.25	1.165	
	No video	3.50	0.924	
Are you more likely or less likely to apply for the Sustainability and Environmental Resources Management (SERM) university program?	1-minute (talking heads)	2.79	0.975	0.284
	1-minute (environmental features)	3.44	1.294	
	3-minute (environmental features)	2.75	1.389	
	No video	2.71	1.105	
Are you more or less interested in studying energy use in Malta?	1-minute (talking heads)	3.00	1.038	0.159
	1-minute (environmental features)	3.72	0.895	
	3-minute (environmental features)	3.63	1.302	
	No video	3.17	0.924	
How positive do you feel about studying sustainability in the marine environment in Malta?	1-minute (talking heads)	3.36	0.842	0.264
	1-minute (environmental features)	3.50	1.150	
	3-minute (environmental features)	4.13	0.835	
	No video	3.33	0.907	
Are you more or less likely to study issues of population density in Malta?	1-minute (talking heads)	3.29	0.914	0.580
	1-minute (environmental features)	3.22	1.060	
	3-minute (environmental features)	3.38	1.302	
	No video	2.83	1.043	
Affective Score combined across nationality	1-minute (talking heads)	3.11	0.525	0.148
	1-minute (environmental features)	3.56	0.600	
	3-minute (environmental features)	3.54	0.810	
	No video	3.21	0.538	

Table 1 Affective Questions by Viewing Group

The error bar graph displays the 95% confidence interval for the mean rating score provided for affective measure. The size of the error bar depends on the size of the sample – the bigger the sample size the smaller the error. Comparing the graphs below, the trends in scores show visibly higher affective scores of the two videos that have environmental features while the scores of the "talking heads" video with no environmental features and those that watched no video are comparable.
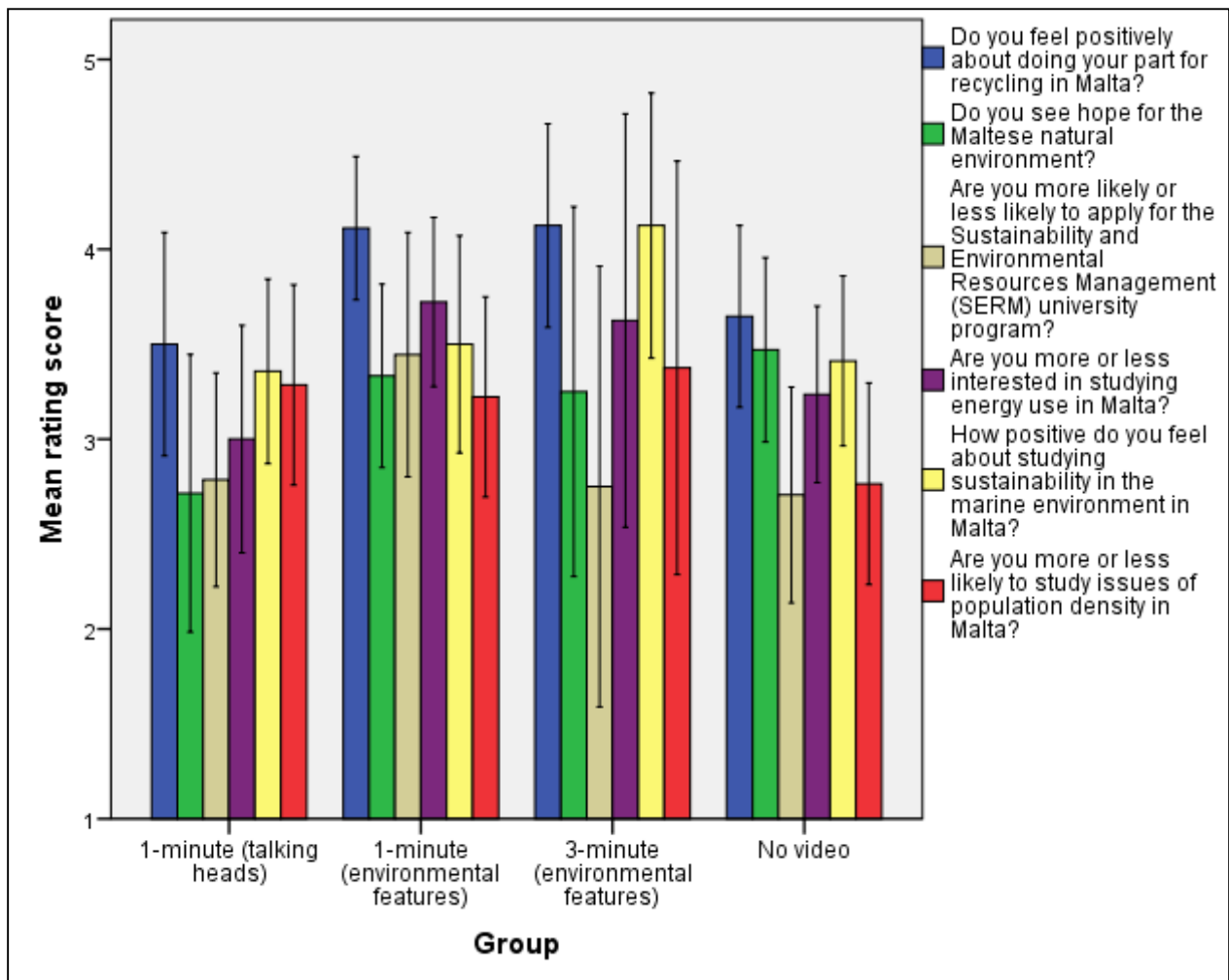
Figure 4 Error Bar Graph Affective Mean Rating Scores Graphed Across Nationality

Mean Affective Rating Scores Combined Across Viewing Groups to Compare Nationality

The following totals of viewing groups were recorded, the statistical evaluation software SPSS discarded responses with incomplete or partial answers to the survey:

Maltese (registrar) 18 total respondents

Maltese (lecturer) 20 total respondents

USA (registrar) 20 total respondents.

The p value for all of the affective scores except for recycling were not significant when groups were combined to show a comparison of Maltese vs USA except in the case of recycling. The significance of the recycling item could be interpreted simply as the Maltese would be more personally involved in their own recycling than American students. On all other mean scores the trends were generally higher for the Maltese than the American students except for "hope for the Maltese natural environment" where Americans scored a bit higher than the Maltese. This, while a bit darkly humorous – might be because the Maltese students know more about their local bio trope than Americans.

		Mean	Std. Deviation	P value
Do you feel positively about doing your part for recycling in Malta?	Maltese (registrar)	4.11	0.900	0.018
	Maltese (lecturer)	3.95	0.945	
	USA (registrar)	3.45	0.686	
Do you see hope for the Maltese natural environment?	Maltese (registrar)	3.17	1.200	0.391
	Maltese (lecturer)	3.00	1.214	
	USA (registrar)	3.50	0.761	
Are you more likely or less likely to apply for the Sustainability and Environmental Resources Management (SERM) university program?	Maltese (registrar)	2.94	1.259	0.988
	Maltese (lecturer)	3.00	1.257	
	USA (registrar)	2.95	1.129	
Are you more or less interested in studying energy use in Malta?	Maltese (registrar)	3.78	0.878	0.118
	Maltese (lecturer)	3.20	1.005	
	USA (registrar)	3.15	1.089	
How positive do you feel about studying sustainability in the marine environment in Malta?	Maltese (registrar)	3.56	1.042	0.913
	Maltese (lecturer)	3.45	0.999	
	USA (registrar)	3.50	0.946	
Are you more or less likely to study issues of population density in Malta?	Maltese (registrar)	3.00	1.085	0.452
	Maltese (lecturer)	3.35	1.040	
	USA (registrar)	3.05	1.050	
Affective Score combined across groups	Maltese (registrar)	3.43	0.650	0.791
	Maltese (lecturer)	3.33	0.608	
	USA (registrar)	3.27	0.608	

Table 2 Combined Affective Viewing Groups to Compare Nationality

The error bar graph shows the trends in mean affective scores across nationality discussed above.

The Maltese mean scores are higher than the USA scores on the item of recycling. The wider

population of Maltese final year students also show a trend of positive affect regarding the study

of energy use in Malta vs the Maltese instructor group and the JMU senior year student
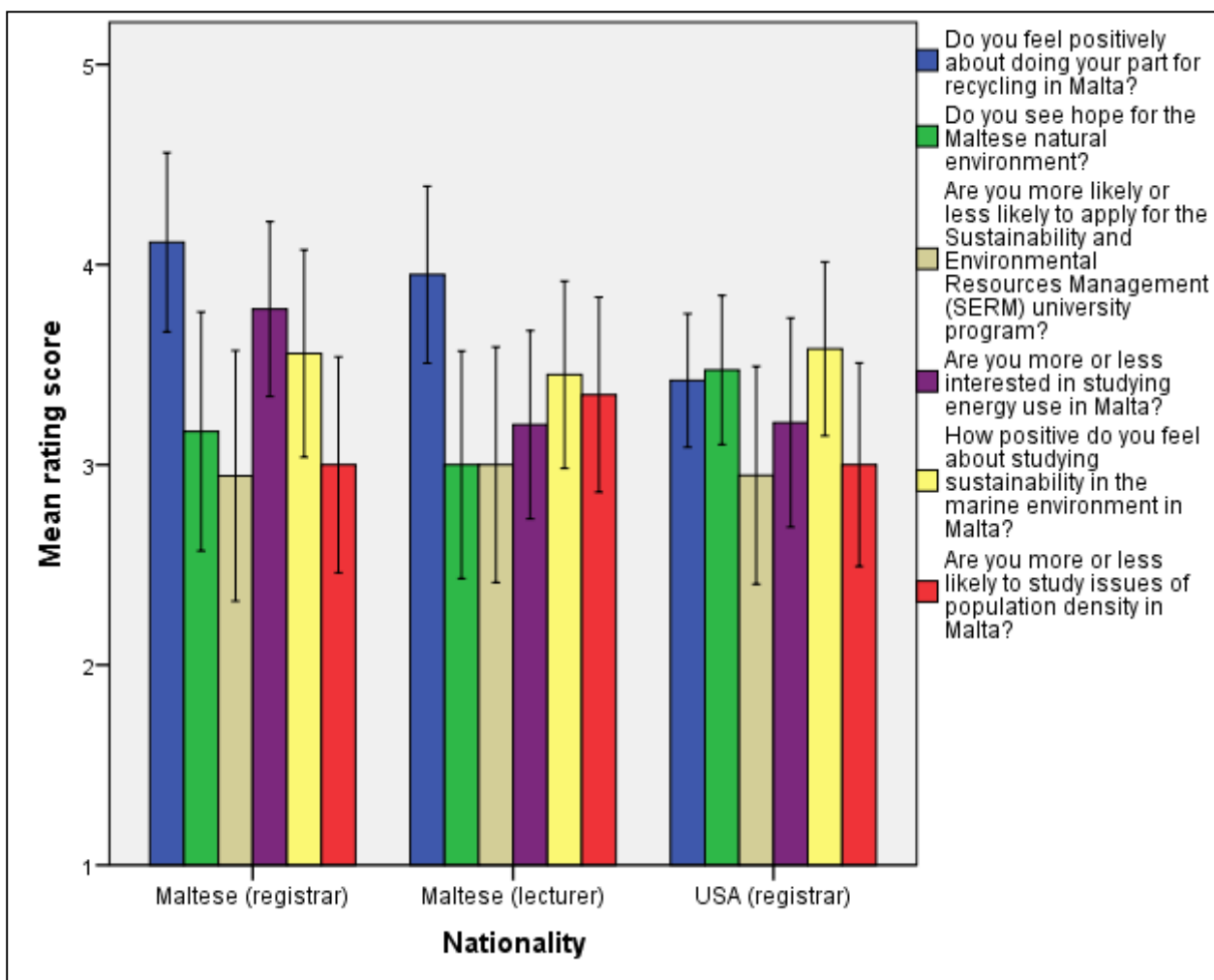
population.

Figure 5 Mean Affective Rating Scores Combined to Compare Nationality

Content Retention and Cognitive Items

The p value on the first content related item 7 "What issues are there in Sustainability that you know of impacting Malta?" was 1.0, showing no correlation between scores across viewer groups.

$X^2(27) = 6.558$, p = 1.000			1-minute (talking heads)	1-minute (environmental features)	3-minute (environmental features)	No video
What issues are there in Sustainability that you know of impacting Malta?	Pollution	Count	12	14	6	11
		Percentage	12.0%	10.8%	11.1%	12.4%
	Population density	Count	10	17	8	10
		Percentage	10.0%	13.1%	14.8%	11.2%
	Limited resources	Count	10	16	7	11
		Percentage	10.0%	12.3%	13.0%	12.4%
	Environmental management	Count	11	13	6	10
		Percentage	11.0%	10.0%	11.1%	11.2%
	Marine Issues	Count	10	12	5	7
		Percentage	10.0%	9.2%	9.3%	7.9%
	Litter	Count	8	13	4	9
		Percentage	8.0%	10.0%	7.4%	10.1%
	Over fishing	Count	10	9	4	10
		Percentage	10.0%	6.9%	7.4%	11.2%
	Traffic congestion	Count	9	15	5	7
		Percentage	9.0%	11.5%	9.3%	7.9%
	Wildlife endangerment	Count	9	6	4	5
		Percentage	9.0%	4.6%	7.4%	5.6%
	Air quality	Count	11	15	5	9
		Percentage	11.0%	11.5%	9.3%	10.1%

Table 3 Item 7 Compared Across Viewing Groups

When examining the bar graph on this item it is difficult to determine any trends in the data. Perhaps the item didn't lend itself to accurate measure. Perhaps the diversity of the issues, the brief mention in the video, and their intrinsic cognitive value as widely known indicators of environmental concern didn't create a relevant relationship. Yes or no questions on specific items may have been more fruitful than the multiple choice format.
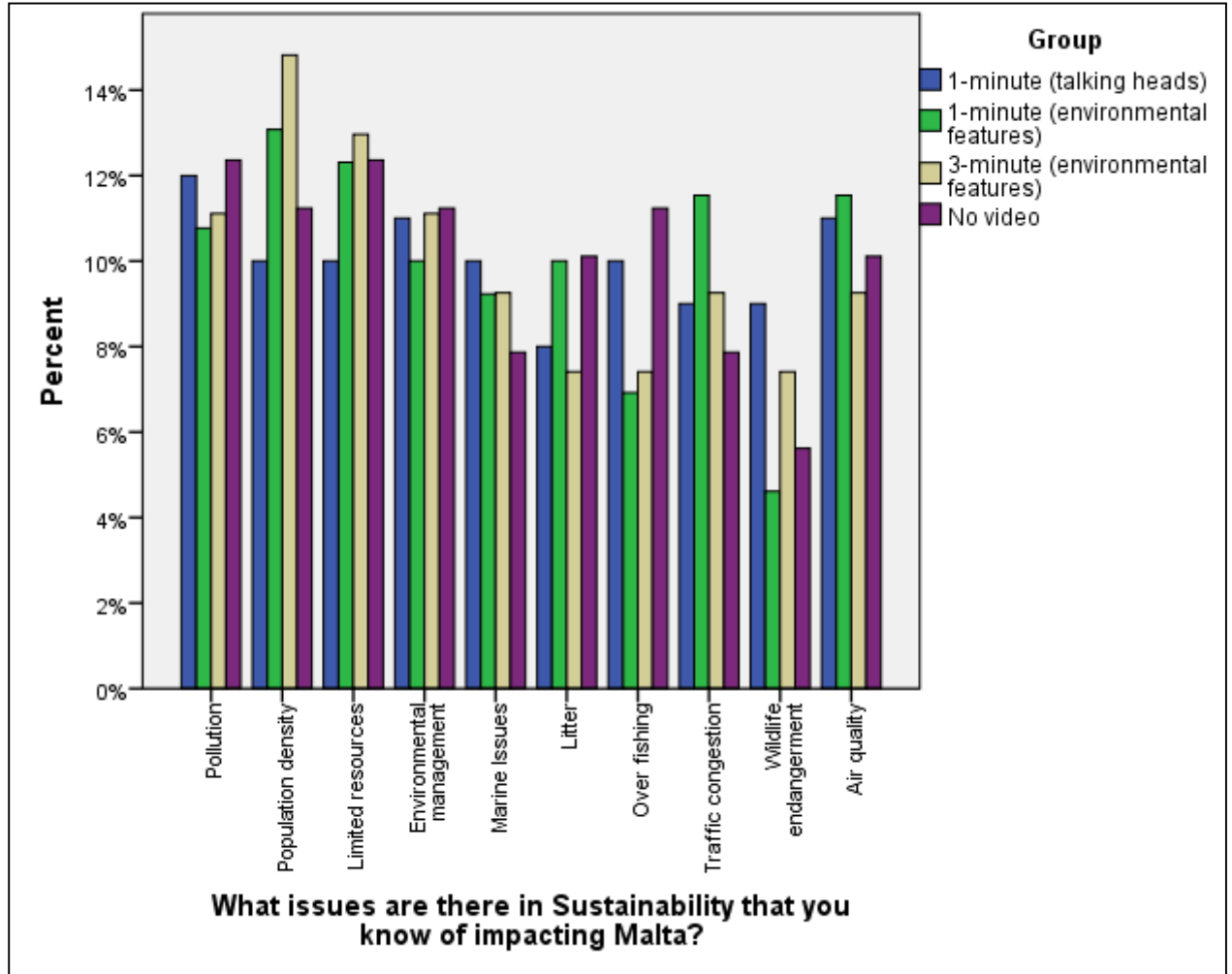
Figure 6 Item 7 Compared Across Viewing Groups

Examining item 7 across nationalities also yielded a very high p value close to one and unrelated responses. Perhaps this confirms that watching these videos had little impact on answering a multiple choice format. The only item that seems to have a clear trend was on traffic congestion – which was not mentioned in the video but shows a clear belief that USA does not consider congestion in Malta a sustainability issue while the Maltese who experience the traffic do consider it.

X²(18) = 8.162, p = 0.976			Nationality		
			Maltese (registrar)	Maltese (lecturer)	USA (registrar)
What issues are there in Sustainability that you know of impacting Malta?	Pollution	Count	14	17	12
		Percentage	11.5%	10.6%	13.2%
	Population density	Count	15	16	14
		Percentage	12.3%	10.0%	15.4%
	Limited resources	Count	12	19	13
		Percentage	9.8%	11.9%	14.3%
	Environmental management	Count	13	16	11
		Percentage	10.7%	10.0%	12.1%
	Marine Issues	Count	11	15	8
		Percentage	9.0%	9.4%	8.8%
	Litter	Count	12	15	7
		Percentage	9.8%	9.4%	7.7%
	Over fishing	Count	9	17	7
		Percentage	7.4%	10.6%	7.7%
	Traffic congestion	Count	13	19	4
		Percentage	10.7%	11.9%	4.4%
	Wildlife endangerment	Count	9	10	5
		Percentage	7.4%	6.3%	5.5%
	Air quality	Count	14	16	10
		Percentage	11.5%	10.0%	11.0%

Table 4 Item 7 Compared Across Nationalities

Looking at the bar graph shows trends of the USA respondents generally mark all the issues the

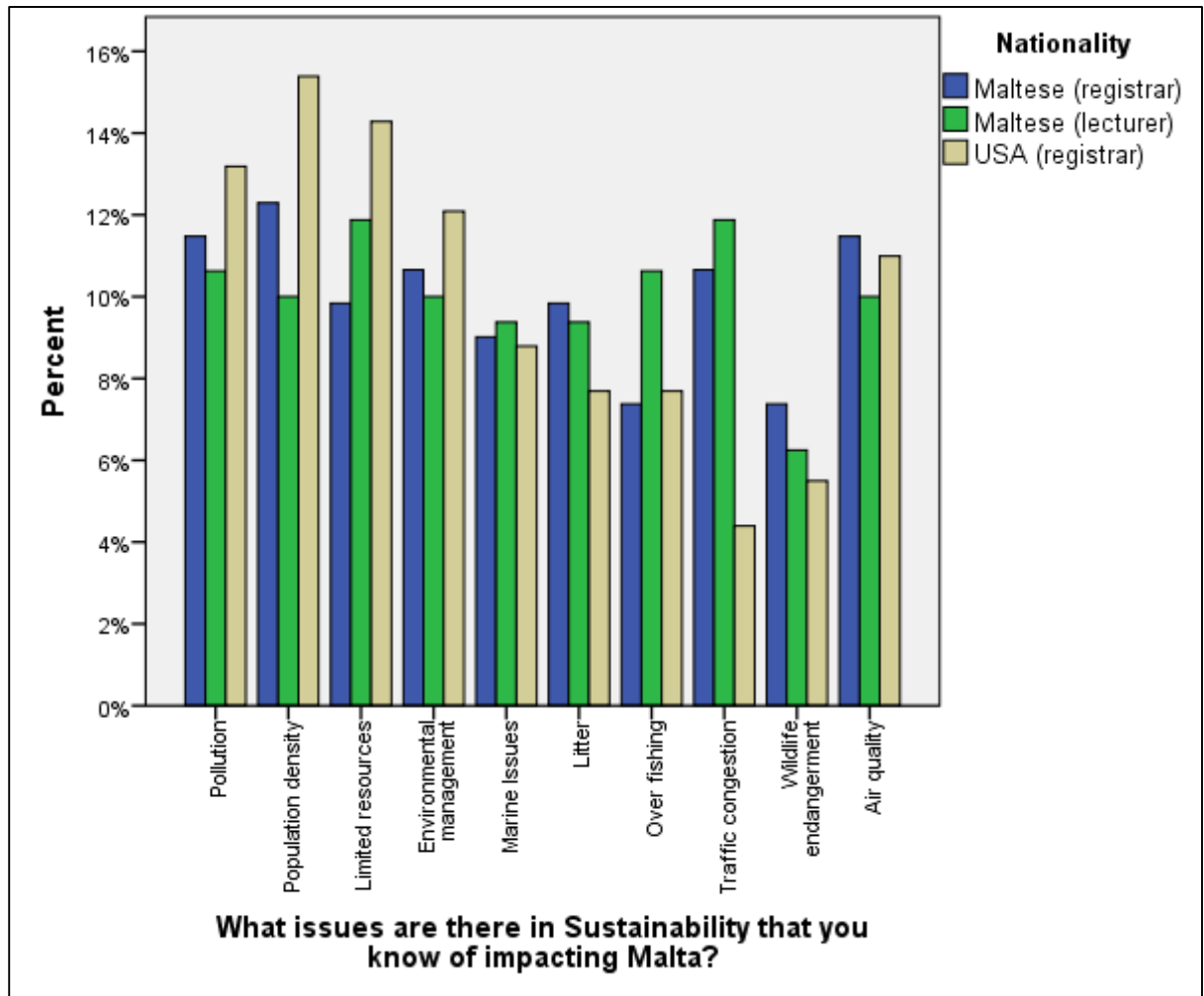same or higher than their Maltese counterparts except in the case of traffic

Figure 7 Item 7 Compared Across Nationalities

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On the item of what language the program was taught in, the survey was not shown to have significant differences between viewing groups. The scores show a trend that generally respondents believed the program to be taught in English. None of the respondents chose "Arabic" the 4th option in the question. Notably, those that watched the videos generally scored higher than those who didn't. This fact was clearly stated in all three videos.

			Group			
$X^2(6) = 3.744$, p = 0.711			1-minute (talking heads)	1-minute (environmental features)	3-minute (environmental features)	No video
What language is the Sustainability in Environmental Resources Management Program taught in at the University of Malta?	English	Count	13	17	8	15
		Percentage	92.9%	89.5%	88.9%	75.0%
	Maltese	Count	1	1	1	4
		Percentage	7.1%	5.3%	11.1%	20.0%
	Italian	Count	0	1	0	1
		Percentage	0.0%	5.3%	0.0%	5.0%

Table 5 Item 8 Compared Across Viewing Groups

The bar graph shows the trend in the score more acutely – it's interesting to see that those who did not watch any video guessed that the program was taught in Maltese more than those who did watch and hear that it is taught in English.
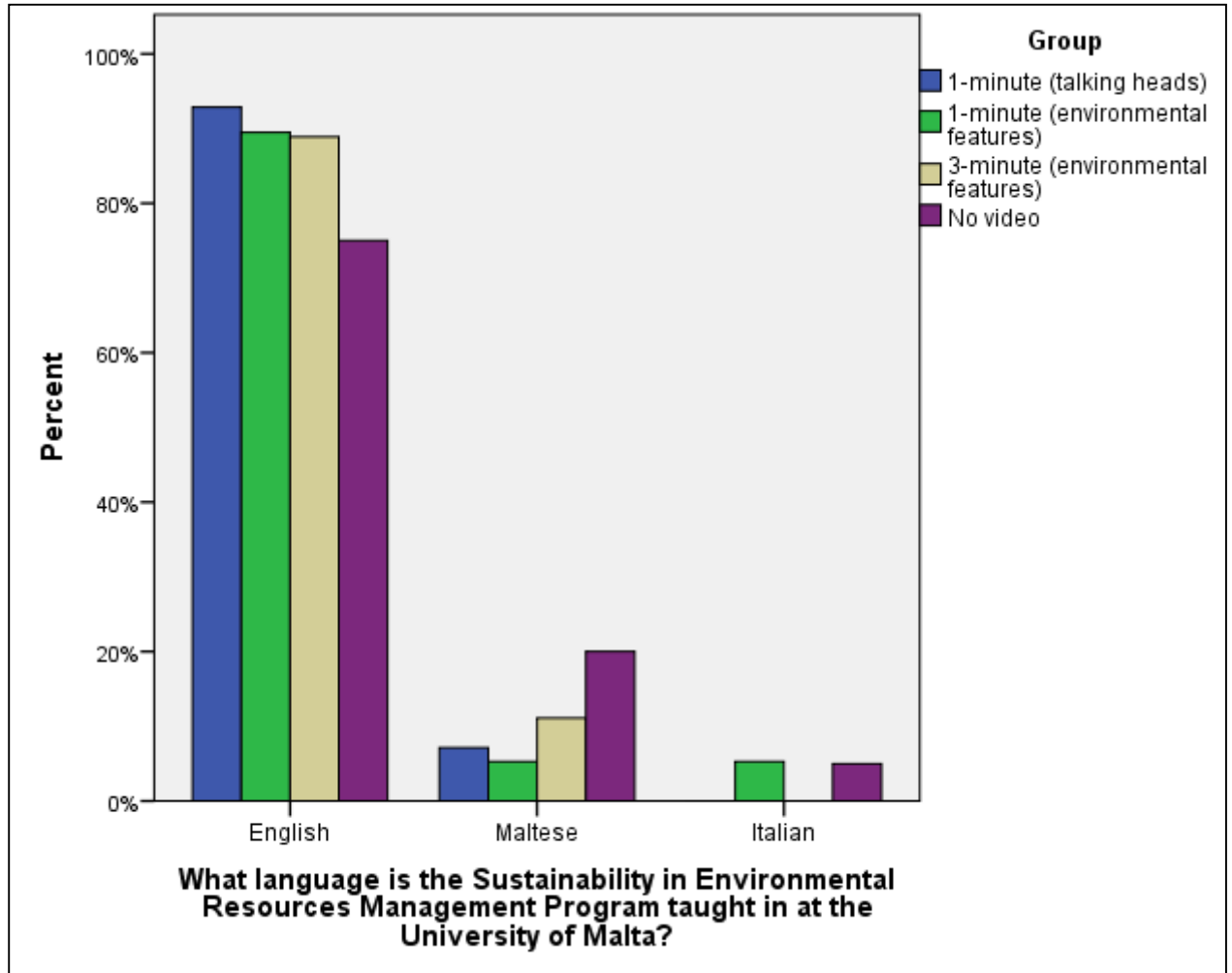
Figure 8 Item 8 Compared Across Viewing Groups

The p value in this case is also not significant however, it is a quite a bit lower than on the other content items. In a comparison of nationality The Maltese respondents scored "more accurately" perhaps because they know that the university course are primarily in English and the USA respondents are probably unfamiliar with this.

$X^2(4) = 4.956$, p = 0.292			Nationality			
			Maltese (registrar)	Maltese (lecturer)	USA (registrar)	Total
What language is the Sustainability in Environmental Resources Management Program taught in at the University of Malta?	English	Count	17	19	17	53
		Percentage	94.4%	90.5%	73.9%	85.5%
	Maltese	Count	1	1	5	7
		Percentage	5.6%	4.8%	21.7%	11.3%
	Italian	Count	0	1	1	2
		Percentage	0.0%	4.8%	4.3%	3.2%

Table 6 Item 8 Compared Across Nationalities

Again it's clear that some of the USA respondents probably weren't aware that the University of
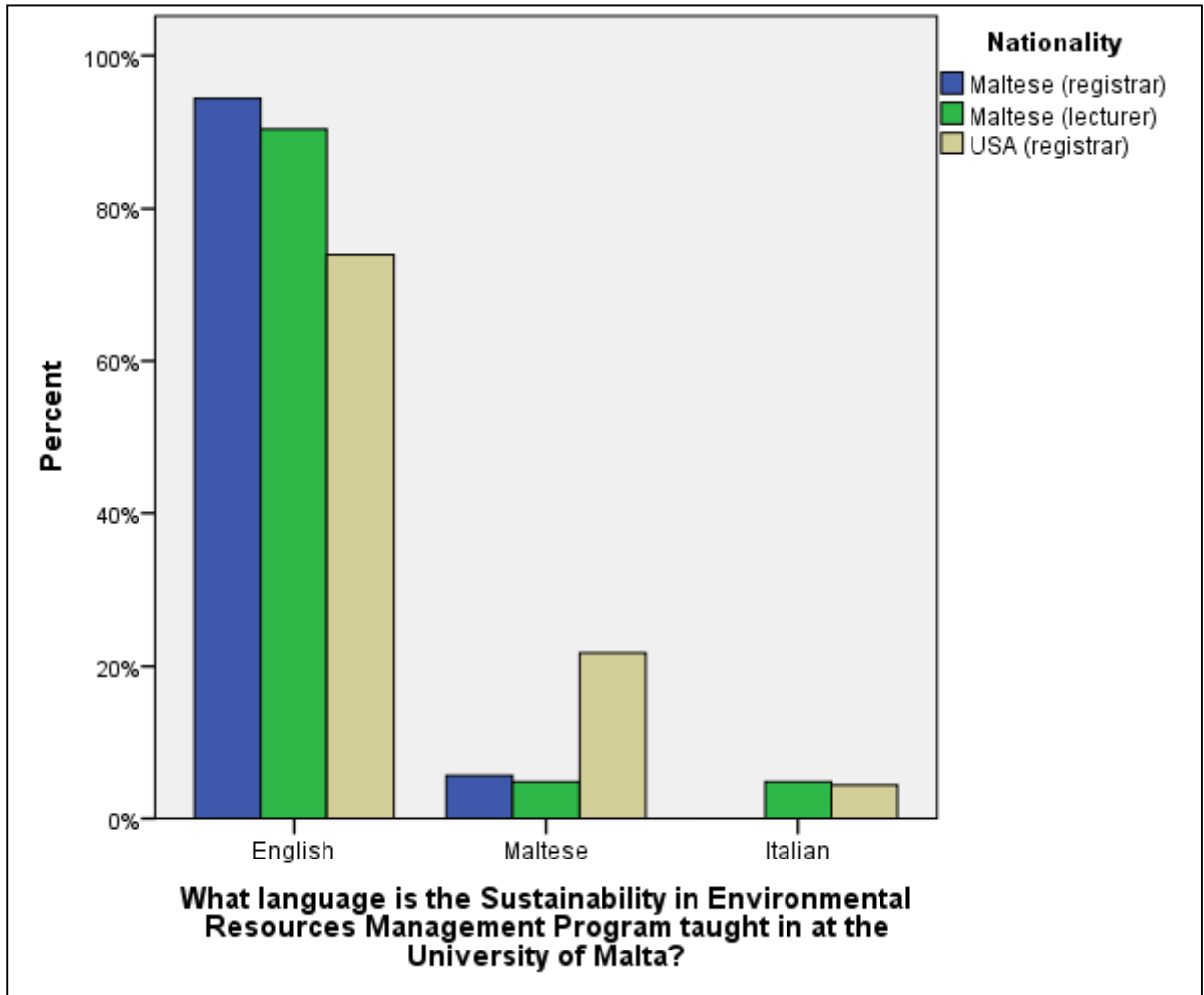
Malta generally teaches in English.

Figure 9 Item 8 Compared Across Nationalities

There was significance in this item. The interviewee clearly stated that the program was one year

in length and this was illustrated by the sped up footage sequence. 100% of the three minute

video watchers chose this item correctly and a higher percentage of the one minute video with

environmental features also chose this item correctly. The one minute "talking heads" video and

the group that did not watch a video had comparable scores. This lends credence to the trend that

showing "talking heads" in some cases may be the same as not watching anything at all.

			Group			
			1-minute (talking heads)	1-minute (environmental features)	3-minute (environmental features)	No video
$X^2(6) = 15.707$, p = 0.015						
What do you think that the duration of the program is?	1 year	Count	7	16	8	8
		Percentage	50.0%	88.9%	100.0%	47.1%
	2 years	Count	6	1	0	5
		Percentage	42.9%	5.6%	0.0%	29.4%
	3 years	Count	1	1	0	4
		Percentage	7.1%	5.6%	0.0%	23.5%

Table 7 Item 9 Compared Across Viewing Groups

Here again the bar graph illustrates the disparity between viewing groups with those watching the

videos with the environmental features scored a significantly different response and those

watching no video and "talking heads" score comparably.
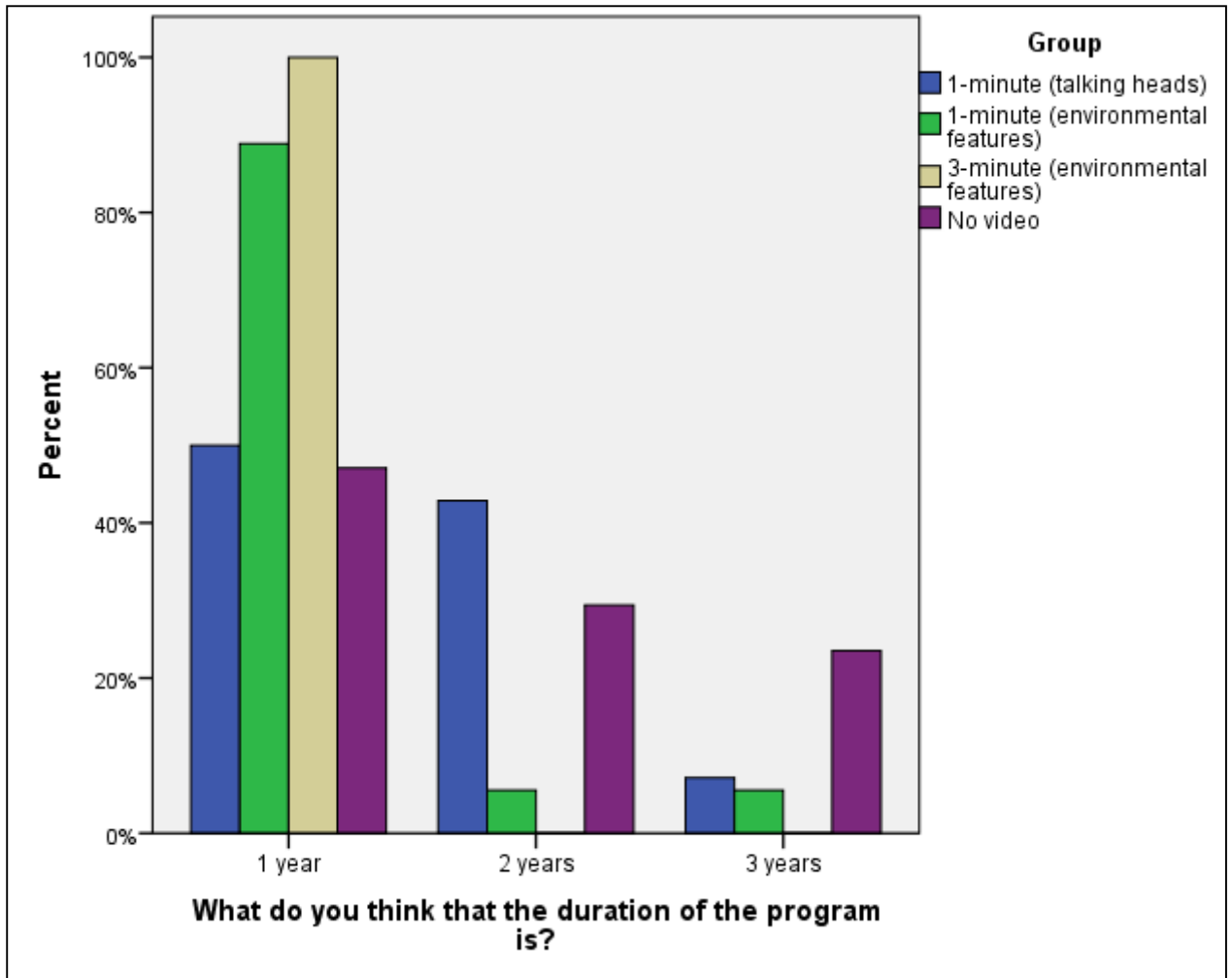
Figure 10 Item 9 Compared Across Viewing Groups

The p value across nationality was insignificant on this item. More than any other test the image

sequence paired with content appears to influence responses of content retention. This endorses

the significance between viewing groups as not an issue of nationality. Perhaps it was the special

effect that made the item's content memorable. Most people responded correctly across

nationality that the program was one year.

			Nationality		
			Maltese	Maltese	USA
$X^2(4) = 3.774$, p = 0.437			(registrar)	(lecturer)	(registrar)
What do you think that the duration of the program is?	1 year	Count	14	11	14
		Percentage	77.8%	55.0%	73.7%
	2 years	Count	3	5	4
		Percentage	16.7%	25.0%	21.1%
	3 years	Count	1	4	1
		Percentage	5.6%	20.0%	5.3%

Table 8 Item 9 Compared Across Nationalities

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Nationality did not seem to show a trend of any determining factor on the accuracy of content retention regarding this item of the survey. The bar graph shows that most respondents believed the program to be one year,
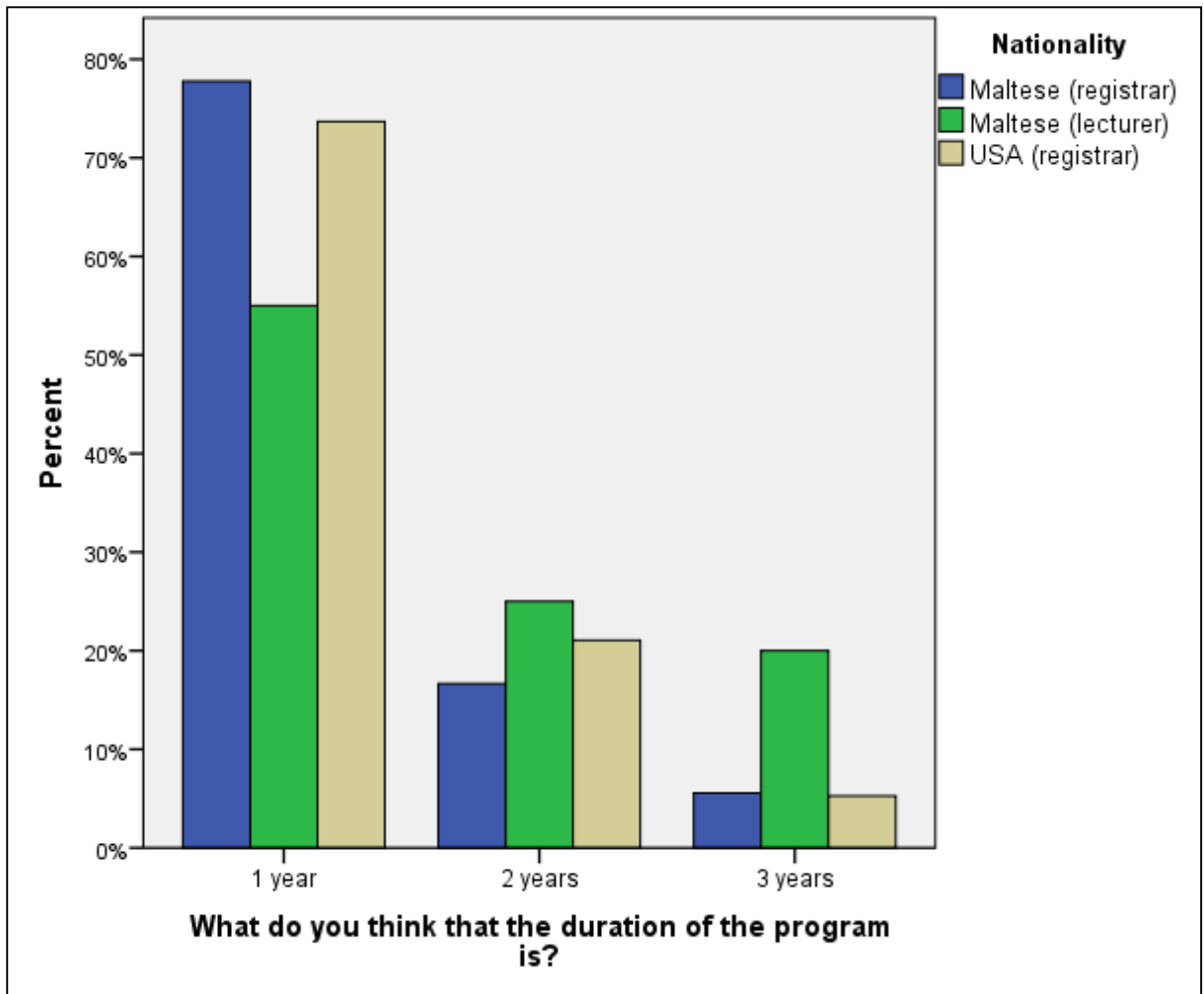

Figure 11 Item 9 Compared Across Nationalities

This multiple choice item did not show significance across scores of video viewing groups. With

a p value of .979 the scores are rather unrelated.

			Group			
$X^2(15) = 6.018$, p = 0.979			1-minute (talking heads)	1-minute (environme ntal features)	3-minute (environment al features)	No video
What application process do you think there is for entry into the program?	Letter of reference	Count	9	11	7	8
		Percentage	32.1%	29.7%	35.0%	22.9%
	GRE	Count	1	3	2	4
		Percentage	3.6%	8.1%	10.0%	11.4%
	Transcripts	Count	7	7	5	10
		Percentage	25.0%	18.9%	25.0%	28.6%
	Large application fee	Count	5	4	1	4
		Percentage	17.9%	10.8%	5.0%	11.4%
	Small application fee	Count	4	7	4	6
		Percentage	14.3%	18.9%	20.0%	17.1%
	None of the above	Count	2	5	1	3
		Percentage	7.1%	13.5%	5.0%	8.6%

Table 9 Item 10 Compared Across Viewing Groups

The trends seen in the bar graph are a bit more revealing than the numbers. While all the groups
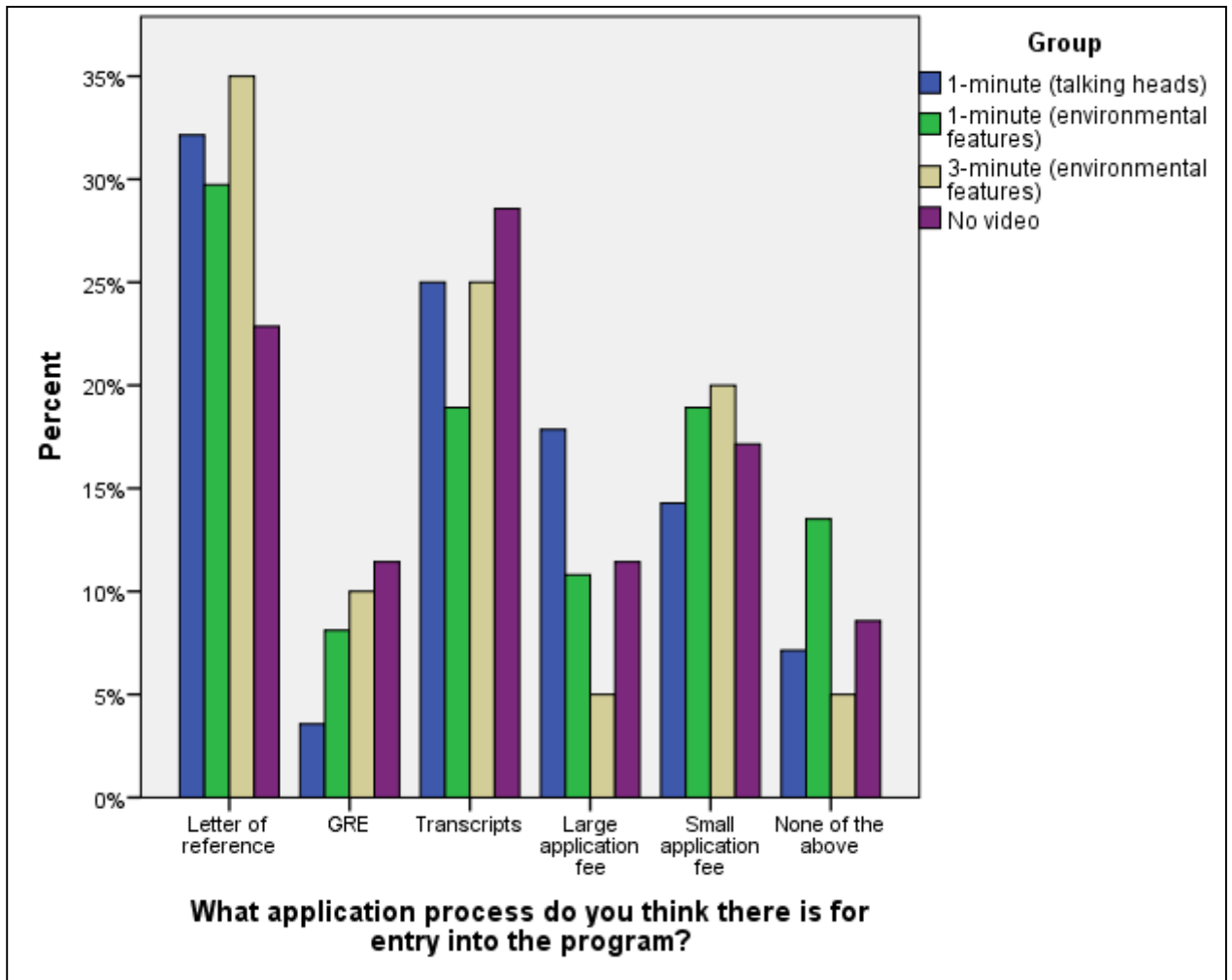
thought letters of reference were required.

Figure 12 Item 10 Compared Across Viewing Groups

When results were calculated across nationality for the entry requirements into the program the p

value of .002 shows quite a bit of significance in the differences between the scores of these

groups. Particularly in the requirements for the GRE which was specifically mentioned as not

being required. A large application fee was thought to have been required by the group recruited

by the Maltese lecturer. The USA students appeared to think the GRE was required. This may be

because the GRE test is more widely used in the USA and not in Malta. Perhaps the Maltese

lecturer group considered a small application fee as more of a concern than the other groups.

			Nationality		
			Maltese	Maltese	USA
$X^2(10) = 27.604$, p = 0.002			(registrar)	(lecturer)	(registrar)
What application process do you think there is for entry into the program?	Letter of reference	Count	11	9	15
		Percentage	32.4%	26.5%	28.8%
	GRE	Count	2	0	8
		Percentage	5.9%	0.0%	15.4%
	Transcripts	Count	5	9	15
		Percentage	14.7%	26.5%	28.8%
	Large application fee	Count	2	10	2
		Percentage	5.9%	29.4%	3.8%
	Small application fee	Count	8	3	10
		Percentage	23.5%	8.8%	19.2%
	None of the above	Count	6	3	2
		Percentage	17.6%	8.8%	3.8%

Table 10 Item 10 Compared across Nationalities

The trends of differences can be seen in the bar graph were the Maltese lecturer group correctly

determined that no GRE was required for the program. However this is in striking contrast to

their belief that a large application fee was required. While significance was found between

groups the trends are difficult to attribute.
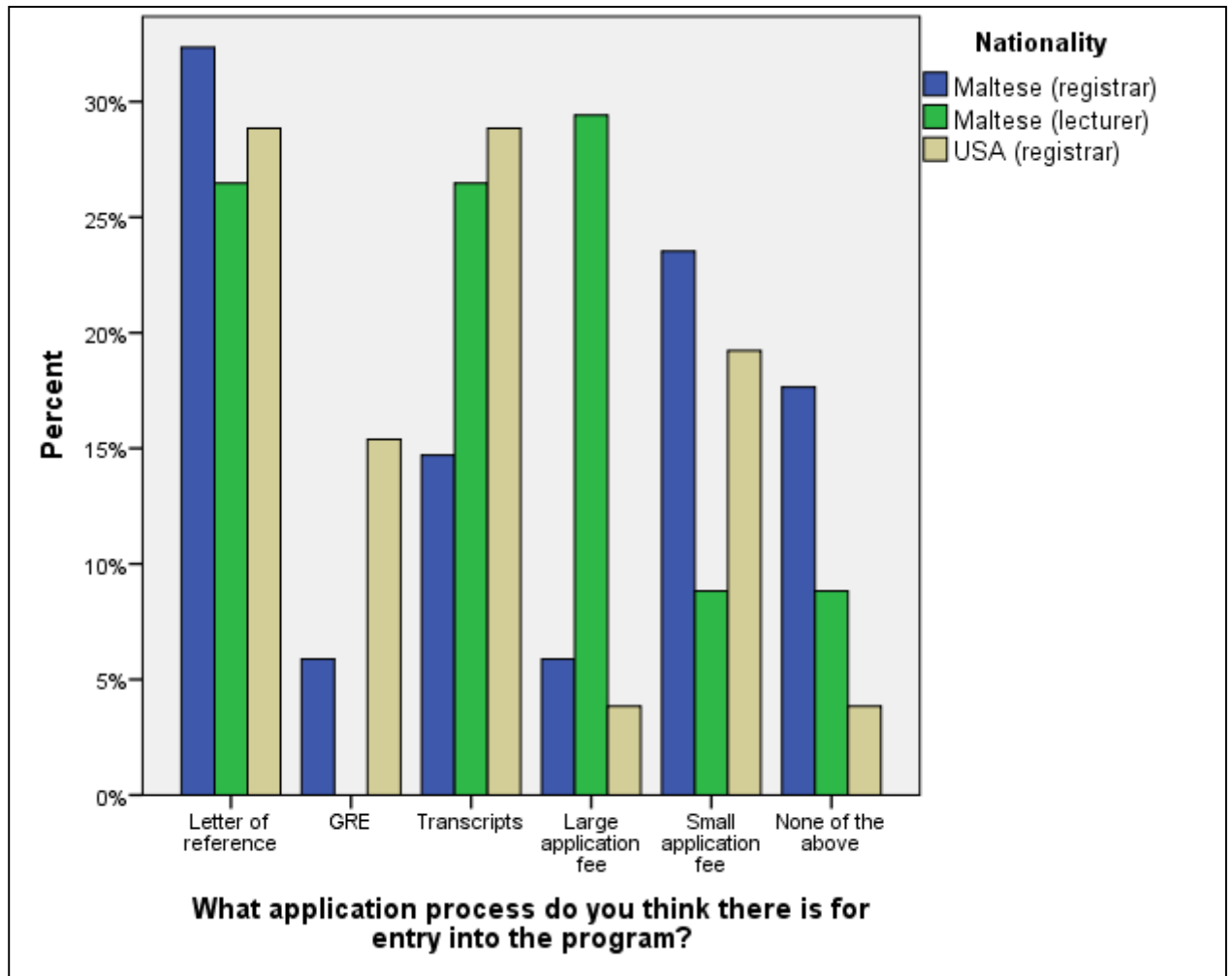
Figure 13 Item 10 Compared Across Nationalities

There was no significance in p score on this items statistical analysis. A high score of .98 indicating that the dispersion between viewing groups was close to uniform. Most respondents from the "Talking heads" video group thought that the nationality of applicants were Maltese and American as did the one minute environmental video group. The three minute environmental video group appeared to think the same. This fact was spoken in all three of the videos.

$X^2(24) = 11.96$, $p = 0.980$			Group			
			1-minute (talking heads)	1-minute (environmental features)	3-minute (environmental features)	No video
What nationality are the majority of student's that apply for the program?	Maltese	Count	12	17	6	12
		Percentage	46.2%	40.5%	30.0%	31.6%
	American	Count	9	14	7	13
		Percentage	34.6%	33.3%	35.0%	34.2%
	German	Count	2	3	1	2
		Percentage	7.7%	7.1%	5.0%	5.3%
	Italian	Count	0	2	1	3
		Percentage	0.0%	4.8%	5.0%	7.9%
	Chinese	Count	0	0	1	2
		Percentage	0.0%	0.0%	5.0%	5.3%
	Norwegian	Count	1	1	1	1
		Percentage	3.8%	2.4%	5.0%	2.6%
	UK	Count	1	4	1	2
		Percentage	3.8%	9.5%	5.0%	5.3%
	South American	Count	1	0	1	1
		Percentage	3.8%	0.0%	5.0%	2.6%
	Japanese	Count	0	1	1	2
		Percentage	0.0%	2.4%	5.0%	5.3%

Table 11 Item 11 Compared Across Viewing Groups

This bar graph shows the majority of respondents appeared to identify correctly that most

applicants to the program were Maltese or American.
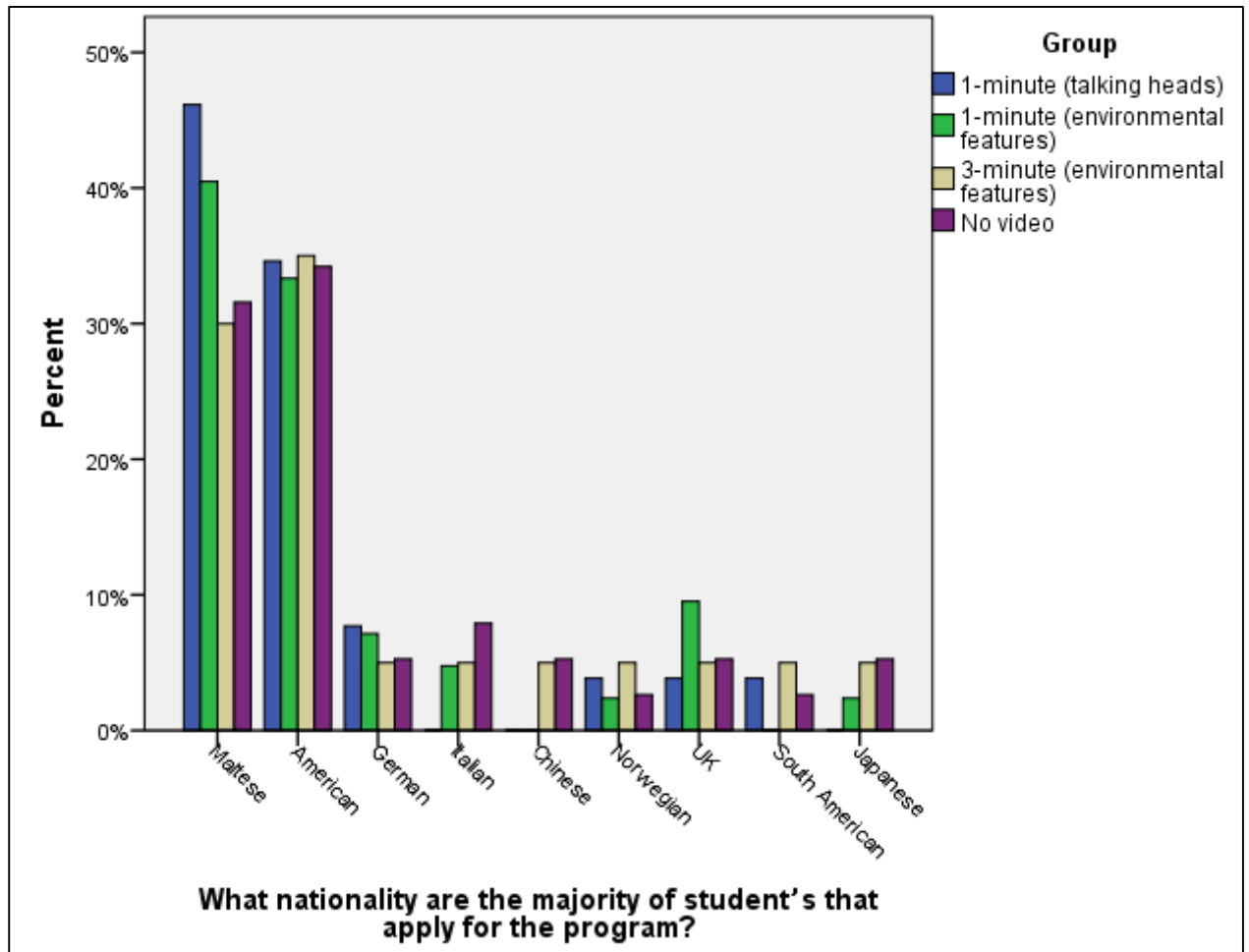
Figure 14 Item 11 Compared Across Viewing Groups

			Nationality		
$X^2(16) = 10.806$, p = 0.821			Maltese (registrar)	Maltese (lecturer)	USA (registrar)
What nationality are the majority of student's that apply for the program?	Maltese	Count	16	18	13
		Percentage	41.0%	46.2%	27.1%
	American	Count	11	14	18
		Percentage	28.2%	35.9%	37.5%
	German	Count	4	1	3
		Percentage	10.3%	2.6%	6.3%
	Italian	Count	1	2	3
		Percentage	2.6%	5.1%	6.3%
	Chinese	Count	0	1	2
		Percentage	0.0%	2.6%	4.2%
	Norwegian	Count	2	0	2
		Percentage	5.1%	0.0%	4.2%
	UK	Count	3	2	3
		Percentage	7.7%	5.1%	6.3%
	South American	Count	1	0	2
		Percentage	2.6%	0.0%	4.2%
	Japanese	Count	1	1	2
		Percentage	2.6%	2.6%	4.2%

Table 12 Item 11 Compared Across Nationalities

When comparing this item across the nationalities of the groups, no statistical significant was found. There was a trend of Maltese students believing that more Maltese students applied to the program. The USA group seemed to think a bit less Maltese might apply – across the other choices the two groups were comparable.
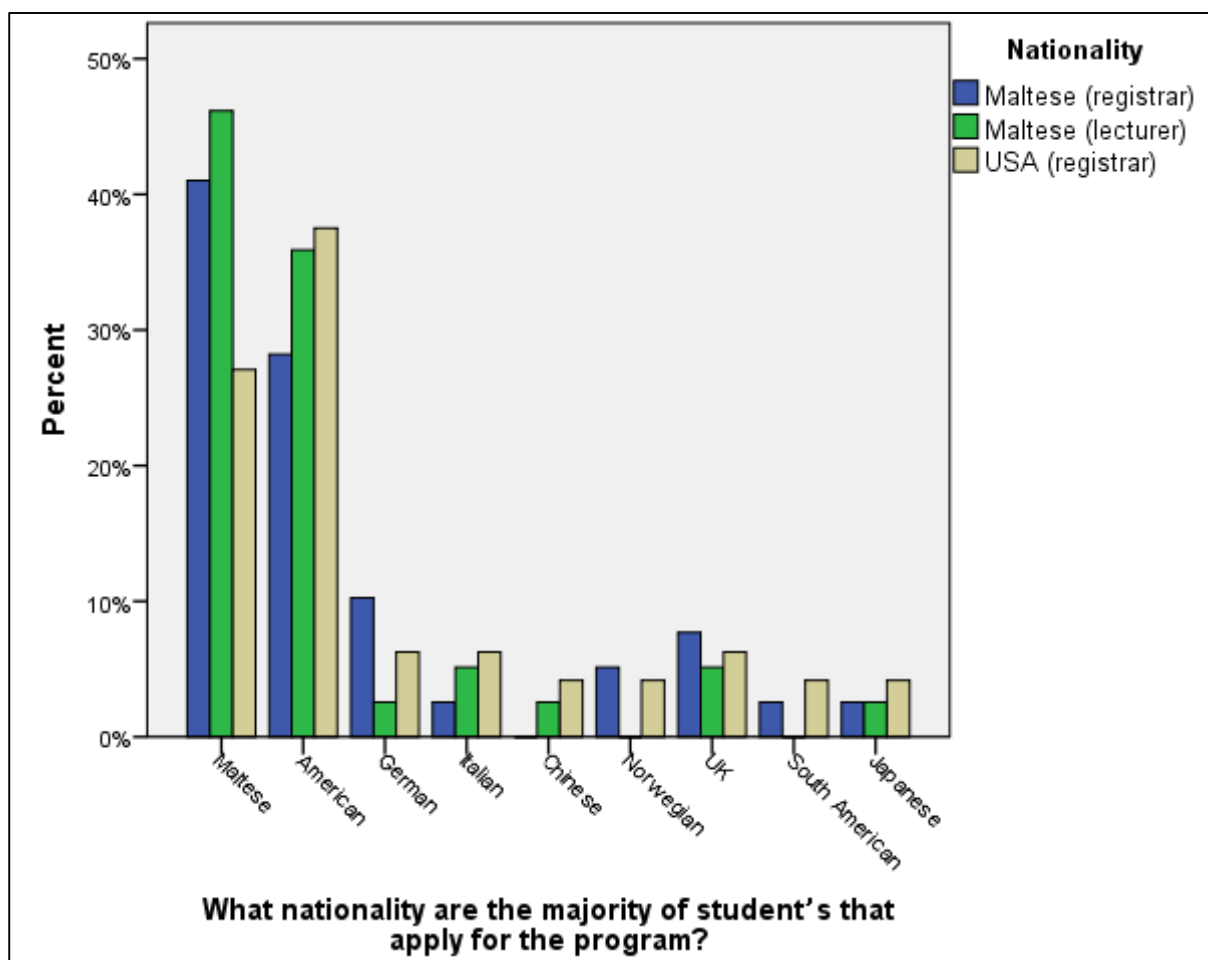

Figure 15 Item 11 Compared Across Nationalities

Summary of Results and Hypothesis

The first hypothesis, i.e. that there is a statistically different response from the control group to the one minute video(s) and the three minute video in the areas of positive affect and content, would involve further study. A larger group of completed surveys is required to reliably establish significance. However, from the basis of this study, no significance was found between different viewing lengths and environmental features in the videos watchers' surveys.

The second two hypothesis were generally found to be true – there were in fact mild trends that indicate that videos with environmental features are preferable to not watching any video and/or a video with "talking heads". Additionally, a three minute video with environmental features produced slightly higher trends of positive affect and content retention than the one minute video with environmental features. What was surprising was that watching " talking heads" produced comparable affective scores than not watching any video and on some items "talking heads" produced slightly more negative scores than not watching any video at all.

Using short videos with environmental features to direct the target audience, toward graduate sustainability education, looks to be more effective than no video and better than using video with "talking heads". Creating a well-produced promotional video including stakeholders, and images of the local biotope, shows statistical trends to be an effective way to promote positive affect and make memorable points about the program to an intended audience.

Additionally the different response rates in the Americans invited to reply by their instructor, and the Maltese invited to reply by their instructor, may indicate that when a personal appeal is made, that the subject matter be local. In other words when creating a personal appeal - in order to get the best response make sure the appeal relates directly with the personal interests of the audience.

In contextualizing sustainability messages, this adds up to making personal appeals to local audiences about local issues having a larger response than making personal appeals to local audiences about more removed issues. In this example, Maltese students responding to their own environment very well when requested by their Maltese instructor. Americans, on the other hand, had a low response rate when personally invited by their American instructor about completing a Maltese sustainability survey.

When addressing these concerns from diffusion theory and a mass communications perspective, Servaes opinion on the significance of personal appeal appears to be helpful (2008). Using personally relevant media from a known personal source can produce a favorable response rate to a call to action (in this case responding to a request to participate in the study). This compared to the fairly equal response rates for survey completion across nationalities when the request was mailed from the registrars (a more anonymous, less personal third party).

Implications

It is advised to use the UNESCO media indicators and Brand's Frames regarding the German Sustainability Discourse as well as mapping a project with the included rubric. These can provide guidance when creating media based on existing literature, expert opinion and the experience of notable development projects. These are building blocks already available. One can benefit enormously from this work that is offered here in an applied format.

Attending to the response rate of the survey requests in engaging stakeholders when making an interpersonal appeal is illuminating. The students' responses to their instructors' appeals to complete the survey bears further study. Making a personal appeal when there is a local issue appears substantially more effective than a personal appeal when the issue is removed from the intended audience.

Recommendations

Included in this paper is a step by step guidebook to produce a short form sustainability video. This can be used to point to written materials or educational and training programs in sustainability. Corporate sustainability reports can get a larger reach and perhaps increase the positive affect and content retention of a presentation by creating a short form video to introduce key concepts and highlights of their programs.

A Practical Guide for Short Form Sustainability Videos

What follows is an easy to understand handbook for the production and publishing of sustainability videos. It incorporates the above principles from the rubric in an easy to follow manner in plain, simple English. This would allow a much wider audience to understand how to do short-form sustainability communication videos. It is a good representation of the thought process as the project pulled together. This practical handbook is an opportunity to prompt readers of this work to consider the practical applications of scholarship and how sophisticated research can yield a document that contributes to sustainable communication development.

Referenced below are some examples of additional handbooks guiding media and interpersonal sustainability communication. These are, perhaps, more sophisticated and in a more graphic and developed form:

(Töpfer & Shea, 2005) (Trussler, 1998) (Townsend, 2013)

While younger video viewers may already be familiar with the process of making a video, this easy to understand advice is gleaned from years of media production experience. Young or old, anyone can learn from this. This handbook is suitable for a junior or senior high school advanced

project or college. Beginner environmental communicators all the way up to graduate experts can all find something here that might help their work.

People who have been displaced or are in countries with marginal infrastructure could particularly benefit from this document. It could be used following the application of the UNESCO Media Indicators. This document offers specific practical advice about how to create sustainable communication once the infrastructure for free speech is in place. Think of this as a primer for sustainability communication video production in the digital age.

Handbook for Sustainable Communication & Short-form Video Production

This handbook describes the basic format of a short sustainability video. It offers production and planning advice and is based primarily on Servaes rubric for sustainability assessment (Servaes et al., 2012). Each section builds on the previous. So although one could jump around in the handbook as a way to get familiar with it, it's best to follow sequentially. Included is a link list of example videos for inspiration and study.

Planning – preproduction.

1) **Think about it, sustainability knowledge!**

   When making a video about sustainability:

   - First watch some short videos related to sustainability that other people have made.

   - Then read a bit about the topic of sustainability to help guide the work.

   There is a link list at the end of the handbook for short form videos. Additionally, there are some other handbooks on sustainability to get started with. Sustainability issues can be complex. A short form video might only be a guidepost along the way to help people find answers to tough problems. Use the included links to get started and the make some searches on the subject you are interested in. This will generate ideas and conversation starters.

2) **Talk to co-workers, friends and family.**

- Talk to the sorts of people that would be interested in the topic.

- Ask them questions about what sustainability means to them and how it effects them.

- Make some notes.

- Think about what the responses are and how it effects them personally.

3) **Gather a team.**

Who are the actors in the project off camera and on?

- Network to find interest and skills for video making.

- Identify an entertaining friend that would like to be in the video.

- Identify a camera person.

- Who will edit it?

- What authorities want to help?

- Financial help?

- Facilities?

- Technology?

4) **Speak with an expert**

Find an expert and have a conversation with them about their ideas of what would make an effective sustainability video. For instance if making a video about recycling talk to an

earth science teacher or call up a local recycling plant and ask to speak with a staff member. Or to make a climate change video call the local television or radio station and talk with the weatherman or someone on the staff that makes the weather broadcasts.

Who are the actors in your project off camera and on?

5) **What story do you want to tell?**

Sustainability topics: *Health – Governance – Education - Environment*

After reading up on the subject, there should be a clearer idea about what can be said and shown. Once the subject is defined a plan must be made to use the short format of the video.

Short form videos limit how much can be presented.

- Make a plan
- What is the script?
- Who is the audience?
- Make the script relevant to the audience.
- Who will appear? Get their informed permission perhaps even written.

For example will the video cover a health topic like organic food? How is local government working to help the poor? How are local school issues in education important? Are local street trees in the community plentiful and well kept?

Remember this is a short video so in the story consider just teasing the audience so that they will be interested in the subject. Then direct them to find more information through a link or a suggestion to read a book.

6) **How far is your reach?** What level is this work for - *Personal, Local, Regional, National, International, and Global?*

- Is this project just for fun or to learn something?
- Is it to show to friends and family?
- Is it for a company's board meeting?
- Is it for the high school class?
- Will the video be shown to government leaders?
- Will it go to television as a public service announcement?
- Is it a commercial project?

Decide the scope of audience and then think about what screen(s) to be on and what resources are needed to place the video there.

Production

7) **What resources are there to make a video? What factors support the video?**

Consider what resources are available to shoot the video. Is there a professional camera to use? Far reaching videos have also been made with a simple cell phone camera as well.

How much time is there? What camera skills are in the team? How will the video be edited? What is each team member's role?

Who is motivated to help with the video? What is the budget? Are there some people who are interested in helping with their time but not with money? Are there people interested in contributing money only?

Think about all that might be needed to get a project like this done and how each resource might be related.

Perhaps team members are also interested in networking. Consider the project from as many perspectives as possible. Is there food provided for the team? What transportation will move the team and gear to the shot locations? Where is the edit room? Can these things work together somehow? If resources are small ask the team for what is missing.

8) **What locations will be featured? What will be your environment**

Camera Framing

Will the video be outdoors or inside buildings – or both? Think about how those places will look though the viewfinder of the camera. Make a brain storm list of these places. As many places as possible. Then think about how to get access to those locations and cross off the ones that don't make sense. Make appointments when possible for those locations that are obtainable.

Lighting

Consider what time of day it will be there and what the light will be like on the shot locations. Shoot as much as possible with the light or sun on the front of the subject and on the back of the camera person. Sunny days are the best and sunny days at sunrise or sunset are spectacular. Planning a shoot at sunrise or sunset can bring enormous production value to the project.

9) **How do these places, and people tell a story?**

Bear in mind how each of those locations you shoot can add something to the story. What activities happen at those sites? Are they busy or serene? Are they noisy or quiet? Picture the people you may want to interview there? Can voices be recorded at these sites? If not consider recording the interview at a place where it's easy to hear and put the voice over these scenes. Make some specific notes on these observations. Knowing your shot locations before using your camera will enhance the shoot.

10) **Start to pull the project together.**

Now make a list of all the places and people you want to include and what those shots will look like. Sketch it out on paper if possible – even stick figures can help to work out where the camera should be and where you want the subject. Doing this can help determine what the places you have chosen will look like through the viewfinder.

11) **Schedule your time, places, people, gear and shots.**

Now make a schedule to shoot the video.

How much time is there? How many places will be covered? Are these places public or private? Is permission required to enter the sites? Contact locations ahead if possible–some great spots might only take a phone call or a friendly favor to allow a video camera recording. What camera gear is needed? Shoot in the best light. Perhaps some trips will only be a test shoot to get an idea of how the final shot will look. Determine what time of day the shot will be.

Get in touch with the people you want to interview and make a date with them. Tell them where and when to meet you and your crew (if you have one). Tell them to wear solid color clothes because stripes don't work well in video.

12) **Set up the shots.**

Arrive to locations early to look over the place. Set up before people will arrive and get ready to shoot when they come. That way they will see that a clear plan has been made. Having a plan helps people feel more comfortable on camera. This is because some people are shy or unfamiliar with being interviewed and it builds confidence to know that the people behind the camera are organized and know what they are doing.

Sometimes when setting up to make a video shoot a passersby may become interested. That's great. Camera shoots are interesting. If curious about these onlookers make an introduction. Perhaps passerby would like to be interviewed. It's great to get a local person's perspective on a place, and even better if they speak about on the video. This adds intensity and authenticity. Make sure these participants are informed what the video is for and get their permission.

13) **Now there's footage**.

Congratulations. The project is 1/3 the way through. Now that the camera work is complete, it must be edited. Backup the work. Save often!

14) **Editorial**

Clear, easy to understand, well produced.

Take a look at the material. What app will be used to edit? Bring the video into the edit program and look at how the video pieces tell the story. Cut out the bits that are unclear or unflattering to the subjects. Start to match video pieces together. Sustainability video should be clear, easy to understand and well produced. Pick the shots that are best lit. Look back at notes from preproduction. Think about what will best bring the original message across. Time spent watching all of the video will show how each piece might fit together. Label each clip. Consider the length of time aimed for and pick the best pieces that start to add up to that amount of time. Consider each part of the video as related to all the rest.

15) **Music**

Pick music that is interesting – better yet, find a local musician and ask to use their music. Just add some at the beginning and at the end for spice. After you get the video almost done perhaps fade in some music here and there to taste. It is easy to overdo it with music. There is useable music on YouTube. There is music at the free music archive as well. Make sure you give the artist credit! http://freemusicarchive.org/ . Make sure that you have the rights to use the music you chose.

16) **Finishing**

After there is an edit of the video that portrays the intended story, get others to take a look at it and offer advice. Wait until the video is pretty much completely edited before you do this. It's difficult for people to imagine what a video will be like before it is completed. Feedback before this point from people unfamiliar with the process can be confusing (unless they produce or edit video themselves).

Get feedback from those originally spoken with in steps two, three and four. Send the video to a favorite expert and ask their advice on the topic. After this feedback, take some notes and let the video sit for a little while and come back to it. It is surprising how much taking a step back can refresh the eyes. Put together the opening credits and end credits and any web links that are important for viewers. Get your team to have a final look. This is called: *prescreening.*

Publishing

17) **Showing the Video -** *What Channels will be used?*

Once there is an initial version completed decide who will see the video for an initial public screening. Is it just for friends and family? Is it for church or school? Will it be played on a computer screen or big screen TV? Perhaps have a viewing party so that the team can show off the creation and celebrate all the hard work.

Will the video be small enough in file size to be played on cellphones? Will the video be seen in a large auditorium before another event? Perhaps advertise it beforehand and make sure it is printed in the program along with credits and links to more info. That way people will know what to expect.

18) **Online Video - YouTube or Vimeo?** *What Channels will you use?*

Of course, there are many places online to share video. YouTube has many videos but it's easy to get lost in the crowd. There is a mish mash of quality. Vimeo offers the most sustainability videos. Perhaps this is due to Vimeo's reputation as a place for quality independent productions rather than merely simply thrown together video from a cell phone with no plan other than to show a cute dog.

19) **Social media**

Share the media with friends online. Here's a suggestion: place the video on Vimeo or YouTube and then link to it in an email address or any other social media like Twitter or Facebook – rather than uploading the video itself everywhere. Encourage conversation about the sustainability topic online in the comments sections.

Further promotion can be made through the efforts of your team in social media. Use email, Facebook, and twitter to promote your work. Create a conversation to carry the message as far as needed to reach the intended audience. Send emails to all the people that might enjoy the work. Use social media and email for low budget promotion. A more significant budget may allow advertising and print media to coincide with these efforts.

Perhaps there are online contests that support the topic covered. When contests are entered make sure that all the team members and actors involved know about the contest and can support the effort as well. Ask the social media folks to up vote and like the media.

20) **Measure success!** Qualitative, Quantitative?

Will a focus group be used to get feedback on the quality of the video? How many have seen it on YouTube? Find some way to measure. This will help determine the success of the project. How will you know if people got your message? Did people understand what was communicated? Did the team seem to like the experience? Create milestones to determine how much was accomplished from the effort.

Resources for the Handbook

Example Primers on Sustainability:

EASY: http://epa.gov/ncer/rfa/forms/sustainability_primer_v7.pdf

MEDIUM: http://nbs.net/wp-content/uploads/SME-Primer.pdf

HARD:http://www.unpei.org/sites/default/files/publications/LR%20PEI%20Private%20Investme

nt%20Primer%20%281%29.pdf

Suggested general sustainability topics. These could be introduced to lead the viewer to consider

an expert opinion or a project. Included are inspirational short-form video examples.

3rd world development

https://vimeo.com/14040516

Bees? – Colony Collapse Disorder?

https://vimeo.com/96490334

Bicycling

https://vimeo.com/20370519

Climate Change

https://vimeo.com/10115174

Corporate Sustainability

https://vimeo.com/22998704

Wind Power https://vimeo.com/686604

Composting

https://vimeo.com/25875161

Conserving Energy At Home

https://www.youtube.com/watch?v=H5s1ia50-

aw

Deforestation

https://vimeo.com/7003616

Dwindling Environmental Resources

https://vimeo.com/85442581

Ecology

https://vimeo.com/94594655

Environmental Journalism

https://vimeo.com/95903058

Environmental Migration

https://vimeo.com/55256795

ECO Graphics (Infographics for the environment) https://vimeo.com/49546067

Green Roofs

https://vimeo.com/59568012

Global Farming Practices

https://vimeo.com/88226293

Interconnectivity

https://vimeo.com/60158286

Lakes and rivers and streams

https://vimeo.com/70304864

Local NGO's that have a story to tell

https://vimeo.com/57391237

Ocean Management

https://vimeo.com/34509047

Organic Eating

https://www.youtube.com/watch?v=IzOaB0MQVlw

Pollution

https://vimeo.com/106945923

Recycling

https://vimeo.com/67692057

Recycling

https://vimeo.com/67692057

Species Extinction

https://vimeo.com/105722726

Sustainability in Design

https://vimeo.com/30388237

Sustainable Development – What is it?

https://vimeo.com/14266910

Tree Planting

https://www.youtube.com/watch?v=BfCftroZej0&list=PL53E38AD48144BA6A

Vanishing glaciers – fact or fiction?

https://vimeo.com/48966552

Water and Sanitation

https://vimeo.com/28434329

What does it mean to be "organic"?

https://vimeo.com/13788063

Wildlife Conservation

https://vimeo.com/53914149
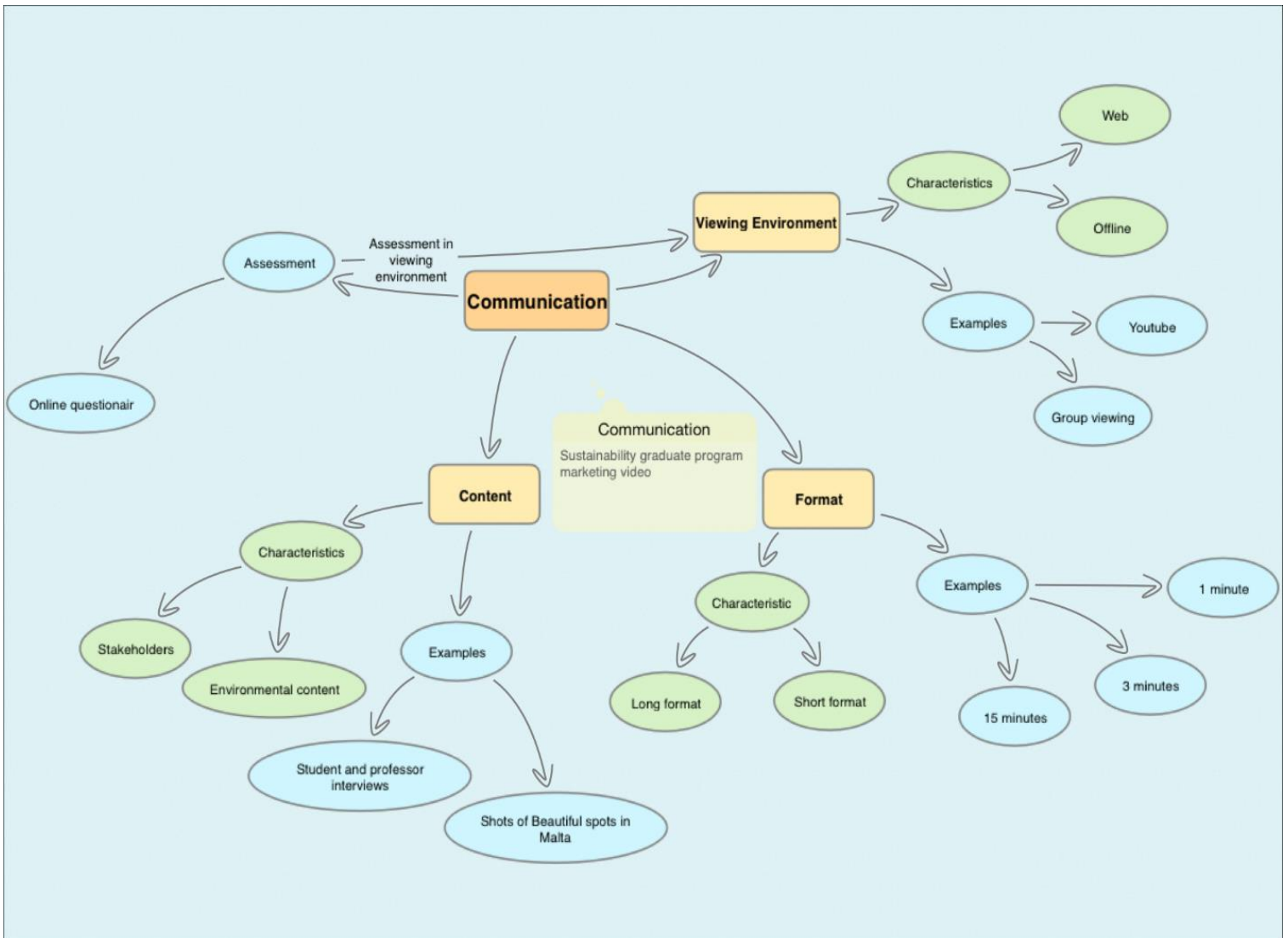
Zero Energy House

https://vimeo.com/57931453

Appendix

Mind Map

The above Mind Map is a description in pictorial form of the project. The mind map shows the structure

of the project, the content of the communication having the characteristics of both stakeholders, and video

footage of the natural and built environment. The specific examples in the videos are of professors and

students. The format of the videos is long versus short, in this case we are studying two one - minute

video clips versus a three - minute video clip. The characteristics of the viewing environment are both of

online and offline viewing. Examples of this might be in web videos and offline in a group environment

on a big screen television.

Transcript of videos

Video Transcription: One Minute Talking heads

This video was edited to be compared with the other videos as an example of a more Spartan and plain representation of those interviewed.

Super: on black background

One minute introduction

University of Malta – James Madison University

MSc ENVIRONMENTAL MANAGEMENT AND SUSTAINABILITY

Shot of Dr. Louis Cassar and Dr. Elizabeth Conrad on Plain Black background.

SUPER: Dr. Elizabeth Conrad – University of Malta:

Dr. Elizabeth Conrad: I think the University of Malta has a particularly prestigious history. It's an old established university and really a remarkable gathering of academics for a country of this size. It's a small island and not only is it a small island it's a small island state. Malta really is a textbook case for studying sustainability. Urbanization, Pollution, environmental protection issues. All of these are very relevant to Malta.

SUPER: Prof. Louis Cassar – University of Malta

Prof. Louis Cassar: It's a field laboratory section – a microcosm of the region. And the fact that the university also teaches in English is also an advantage.

Shot of Kamil on red couch with blue striped wallpaper

SUPER: Kamil Armaiz – Graduate Student

Kamil Armaiz: Not everybody knows about Malta and when you start learning about Malta and the rich culture that is here. It's actually very special.

Shot of James with blue striped wallpaper same room as Kamil

SUPER: James Sheats – Graduate Student

James Sheats: Prepare yourself mentally that you are coming into a one year program. And that they are shortening a two three year program into one year.

Shot of Dr. Jonathan Miles on Plain Black background.

SUPER: Dr. Jonathan Miles – James Madison University

Dr. Jonathan Miles: We have tried to post an application process that is accessible to anyone not just Maltese and Americans that represent the majority of our students but other nationalities as well.

Super: on black background

To learn more visit: http://uom.edu.mt/ipm

University of Malta – James Madison University

MSc ENVIRONMENTAL MANAGEMENT AND SUSTAINABILITY

Production Credits

Bryan Ogden Director/Editor

Clive Ferrante Camera/Tech Support

Ian Psaila Camera/Tech Support

Mario Cassar Executive Producer

Saviour Chircop Dean of MKS

Video Transcription: One Minute with Environmental Images

This video was edited to be compared with the other videos as an example of a short video with

environmental images.

SUPER: on background shot of iconic Valletta Cupola and Steeple of Episcopal Church with sailboat in

the for ground:

1 minute introduction

University of Malta – James Madison University

MSc ENVIRONMENTAL MANAGEMENT AND SUSTAINABILITY

Interior Shot of Dr. Louis Cassar and Dr. Elizabeth Conrad on Plain Black background.

SUPER: Dr. Elizabeth Conrad – University of Malta:

Dr. Elizabeth Conrad: I think the University of Malta has a particularly

Exterior Shot of Statue Crest outside gate of Valletta Campus

Dr. Elizabeth Conrad: prestigious history.

Interior Shot of interior of Valletta Campus Statues and ancient hall

Dr. Elizabeth Conrad: It's an old

Interior shot moving through stacks of books in graduate school library

Dr. Elizabeth Conrad: established university and really

Exterior shot on Comino Island of Elizabeth and Louis with other academics and university staff

Dr. Elizabeth Conrad: a remarkable gathering of academics for a country of this size.

Exterior shot of student on cliff overlooking blue lagoon

Dr. Elizabeth Conrad: It's a small island and

Exterior shot of palm trees and Romanesque pillared architecture in front of a fountain

Dr. Elizabeth Conrad: not only is it a small island not only is it a small island it's a small island state.

Interior shot of lecture hall

Dr. Elizabeth Conrad: Malta really is a

Interior shot of University Staff at a recognition ceremony

Dr. Elizabeth Conrad: textbook case

Exterior urban shot overlooking harbor and Sliema/Gzira

Dr. Elizabeth Conrad: for studying the issue that have to do with sustainability. Urbanization, Pollution,

External shot of blooming poppies in a vineyard

Dr. Elizabeth Conrad: environmental protection

External shot of blue lagoon

Dr. Elizabeth Conrad: issues. All of these are

External shot of a vibrant pink beautiful but invasive species of flower overlooking a bay in Camino

Dr. Elizabeth Conrad: very relevant to Malta.

Interior Shot of Dr. Louis Cassar and Elizabeth Conrad on Plain Black background

SUPER: Prof. Louis Cassar – University of Malta

Prof. Louis Cassar: It's a field laboratory section – a microcosm of the region. And the fact that the university also teaches in English is also an advantage.

Shot of Kamil on red couch with blue striped wallpaper

SUPER: Kamil Armaiz – Graduate Student

Kamil Armaiz: Not everybody knows about Malta and when you start learning about Malta and the rich culture that is here. It's actually very special.

Shot of James with blue striped wallpaper, same room as Kamil

SUPER: James Sheats – Graduate Student

James Sheats: You are coming into a one year program.

Exterior sped up shots of Sliema Waterfront walkway and Mdina City streets

James Sheats: and that they are shortening a two three year program into one year.

Shot of Dr. Jonathan Miles on Plain Black background.

SUPER: Dr. Jonathan Miles – James Madison University

Dr. Jonathan Miles: We have tried to post an application process that is accessible to anyone

Exterior shots of happy students waving outdoors on Comino field trip

Dr. Jonathan Miles: not just Maltese and Americans that represent the majority of our students

SUPER: on background shot of iconic Valletta Cupola and Steeple of Episcopal Church with sailboat in the foreground:

To learn more visit: http://uom.edu.mt/ipm

University of Malta – James Madison University

MSc ENVIRONMENTAL MANAGEMENT AND SUSTAINABILITY

Dr. Jonathan Miles: but other nationalities as well.

Super: fade to black background

To learn more visit: Http://uom.edu.mt/ipm

University of Malta – James Madison University

MSc ENVIRONMENTAL MANAGEMENT AND SUSTAINABILITY

Production Credits roll on black background

Bryan Ogden Director/Editor

Clive Ferrante Camera/Tech Support

Ian Psaila Camera/Tech Support

Mario Cassar Executive Producer

Saviour Chircop Dean of MKS

Video Transcription: Three Minute with Environmental Images

This video was edited to be compared with the other videos as an example of a short video with

environmental images. It is approx. three minutes in length.

SUPER: on background shot of iconic Valletta Cupola and Steeple of Episcopal Church with sailboat in

the for ground:

Second background shot of pier and boats in harbor with Manoa Island and Valletta in background

across the bay

3 minute introduction

University of Malta – James Madison University

MSc ENVIRONMENTAL MANAGEMENT AND SUSTAINABILITY

Interior Shot of Prof. Louis Cassar and Dr. Elizabeth Conrad on Plain Black background.

SUPER: Dr. Elizabeth Conrad – University of Malta:

Dr. Elizabeth Conrad: I think the University of Malta has a particularly

Exterior Shot of Statue Crest outside gate of Valletta Campus

Dr. Elizabeth Conrad: prestigious history.

Interior Shot of interior of Valletta Campus Statues and ancient hall

Dr. Elizabeth Conrad: It's an old

Interior shot moving through stacks of books in graduate school library

Dr. Elizabeth Conrad: established university and really

Exterior shot on Comino Island of Elizabeth and Louis with other academics and university staff

Dr. Elizabeth Conrad: a remarkable gathering of academics for a country of this size.

Exterior shot of blue lagoon and cliffs of Camino

Dr. Elizabeth Conrad: But for our particular subject area I think Malta is a perfect case study.

Exterior shot of student on cliff overlooking blue lagoon

Dr. Elizabeth Conrad: It's a small island and

Exterior shot of palm trees and Romanesque pillared architecture in front of a fountain

Dr. Elizabeth Conrad: not only is it a small island not only is it a small island it's a small island state.

Interior shot of lecture hall

Dr. Elizabeth Conrad: So if you are talking of sustainability Malta really is a

Interior shot of University Staff at a recognition ceremony

Dr. Elizabeth Conrad: textbook case

Second Interior shot of University Staff at a recognition ceremony in academic robes

Dr. Elizabeth Conrad: for studying these issues.

External Urban shot of Valletta Cupola from the roof of the Valletta Graduate School

Dr. Elizabeth Conrad: We have limited resources. We have a very dense population. We have several issues

Exterior urban shot overlooking harbor and Sliema/Gzira

Dr. Elizabeth Conrad: that have to do with sustainability. Urbanization, Pollution,

External shot of blooming poppies in a vineyard

Dr. Elizabeth Conrad: environmental protection issues.

External shot of blue lagoon

Dr. Elizabeth Conrad: All of these are

External shot of a vibrant pink beautiful but invasive species of flower overlooking a bay in Camino

Dr. Elizabeth Conrad: very relevant to Malta.

Interior Shot of Dr. Louis Cassar and Elizabeth Conrad on Plain Black background

SUPER: Prof. Louis Cassar – University of Malta

Prof. Louis Cassar: It's a field laboratory section – a microcosm of the region. And the fact that the University also teaches in English is also an advantage.

Shot of Kamil on red couch with blue striped wallpaper

SUPER: Kamil Armaiz – Graduate Student

Kamil Armaiz: Not everybody knows about Malta and when you start learning about Malta

External shot of Valletta 3 tier street view of picturesque renaissance urban architecture with

characteristic Maltese balconies and pigeons – Camera pans back to charming alleyway cobbled street.

Kamil Armaiz: and the rich culture that is here. It's actually very special. You are in the center of the Mediterranean

Interior Shot of attractive graduate students at a buffet

Kamil Armaiz: where a lot of history,

Interior shot of professionally dressed grad students clowning around and smiling several different ethnicities are represented in the group.

Kamil Armaiz: cultures and ethnicities have gone through. And I was sure I was going to love it

Interior shot of Kamil on red couch in Valletta Campus chapel room

Kamil Armaiz: just because of the full diversity of it.

Shot of James with blue striped wallpaper, same room as Kamil

SUPER: James Sheats – Graduate Student

James Sheats: Prepare yourself mentally, you are coming into a one year program.

Exterior sped up shots of Sliema Waterfront walkway and Mdina City streets

James Sheats: And that they are shortening a two three year program into one year. And once you kind of wrap your head around that before you come I think that would help the transition

Exterior Shot from Mdina overlooking farmland surrounding camera stops and pans slowly

James Sheats: When classes start.

Interior Shot of James with blue striped wallpaper, same room as before

James Sheats: Very Much.

Interior Shot Super close up of James's face in same room

James Sheats: I'm having a great time here. I kind of understood that it would be a compact intense course and it is totally worth it for me.

Shot of Dr. Jonathan Miles on Plain Black background.

SUPER: Dr. Jonathan Miles – James Madison University

Dr. Jonathan Miles: We have tried to post an application process that is accessible to anyone not just Maltese and Americans that represent the majority of our students. But other nationalities as well – one of the goals is to be accessible and be friendly to all different communities around the world. Sustainable development sustainable practices that would be submitted along with a personal statement also two letters of recommendation would be provided.

Interior shot of University Staff at a recognition ceremony in academic robes clapping and then shaking hands while holding a document and awarding it to the student.

Dr. Jonathan Miles: This is not unique to one region, it's important throughout. So the application requires the completion of a two page document along with a personal statement and two letters of recommendation would be provided.

Exterior shots of happy students waving outdoors on Comino field trip

Dr. Jonathan Miles: The GRES the Graduate record exam are not required and of course

SUPER: on background shot of iconic Valletta Cupola and Steeple of Episcopal Church with sailboat in the foreground:

To learn more visit: http://uom.edu.mt/ipm

University of Malta – James Madison University

MSc ENVIRONMENTAL MANAGEMENT AND SUSTAINABILITY

Dr. Jonathan Miles: there is a modest application fee involved as well.

Production Credits roll on black background

Bryan Ogden Director/Editor

Clive Ferrante Camera/Tech Support

Ian Psaila Camera/Tech Support

Mario Cassar Executive Producer

Saviour Chircop Dean of MKS

The Entire Survey

The entire survey as it appeared online.

You are being asked to participate in a Sustainability research study!

Please answer the questions below.

Scroll Down for Survey Questions

Giving of Consent

I have been given the opportunity to ask questions about this study. I have read this consent and I understand what is being requested of me as a participant in this study. I certify that I am at least 18 years of age. By completing and submitting this anonymous survey, I am consenting to participate in this research.

Study Info

Identification of Investigators & Purpose of Study

You are being asked to participate in a research study conducted by Bryan Ogden from James Madison University and the University of Malta. The purpose of this study is to determine the efficacy of 3 videos. This study will contribute to the student's completion of his master's thesis.

Research Procedures

This study consists of an online survey that will be

Contact Info

Questions about the Study

If you have questions or concerns during the time of your participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact:

Researcher Bryan Ogden

ogdenbt@dukes.jmu.edu

356 99132417

Department ISAT

administered to individual participants through an online survey tool you may or may not be asked to watch a 1-3 minute video. You will be asked to provide answers to a series of questions related to the efficacy of online video viewing.

Time Required

Participation in this study will require 20 minutes of your time

Risks

The investigator does not perceive more than minimal risks from your involvement in this study (that is, no risks beyond the risks associated with everyday life).

Benefits

Potential benefits from participation in this study include increasing interest in the study of sustainability and increased enrollment in the Sustainability program offered at the University of Malta.

Confidentiality

The results of this research will be presented at

James Madison University

4102

JMU Advisor's Name

 Dr. Jonathan Miles

milesjj@jmu.edu

(540) 568-3044

Department ISAT

James Madison University

4102

Dissertation Committee Chair

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Questions about Your Rights as a Research Subject?

Dr. David Cockley

presented at the University of Malta thesis examination and submitted to likely research journals for publication. While individual responses are anonymously obtained and recorded online through the online survey - data is kept in the strictest confidence. No identifiable information will be collected from the participant and no identifiable responses will be presented in the final form of this study. All data obtained through the questionnaire responses will be stored in a secure location only accessible to the researcher and his academic advisors. The researcher retains the right to use and publish non-identifiable data. At the end of the study, all records used by the researcher pertaining to your personally answering the questionnaire will be destroyed. Final aggregate results will be made available to participants upon request. The software does not collect IP addresses so that the researcher can identify you to him it only ensures that only one response can be made from a single computer. From the http://esurv.org/ privacy policy: Information that is gathered from visitors in common with other websites, log files are stored on the web server saving details such as the visitor's IP address,

Chair, Institutional Review Board

James Madison University

(540) 568-2834

cocklede@jmu.edu

Name of Researcher: Bryan Ogden

Date: January 27, 2014

This study has been approved by the IRB, protocol # 15-0083.

browser type, referring page and time of visit.

Cookies may be used to remember visitor

preferences when interacting with the website.

Cookies are small digital signature files that are

stored by your web browser that allow your

preferences to be recorded when visiting the website

they may be used to track your return visits to the

website.

Participation & Withdrawal

Your participation is entirely voluntary. You are

free to choose not to participate. Should you choose

to participate, you can withdraw at any time without

consequences of any kind. However, once your

responses have been submitted and anonymously

recorded you will not be able to withdraw from the

study.

1. Do you feel positively about doing your part for recycling in Malta?

○ Strongly Negative   ○ Negative   ○ Neutral   ○ Positive   ○ Strongly Positive

2. Do you see hope for the Maltese natural environment?

○ More Doubtful   ○ Doubt   ○ Neutral   ○ Hope   ○ More Hopeful

3. Are you more likely or less likely to apply for the Sustainability and Environmental Resources

Management (SERM) university program?

○ Very Unlikely ○ Unlikely ○ Neutral ○ Likely ○ Very Likely

4. Are you more or less interested in studying energy use in Malta?

○ Very Disinterested ○ Disinterested ○ Neutral ○ Interested ○ Very Interested

5. How positive do you feel about studying sustainability in the marine environment in Malta?

○ Very Negative ○ Negative ○ Neutral ○ Positive ○ Very Positive

6. Are you more or less likely to study issues of population density in Malta?

○ Very Unlikely ○ Unlikely ○ Neutral ○ Likely ○ Very Likely

7. What issues are there in Sustainability that you know of impacting Malta?

☐ Pollution ☐ Population Density

☐ Limited Resources ☐ Environmental Management

☐ Marine Issues ☐ Litter

☐ Over fishing ☐ Traffic Congestion

☐ Wildlife Endangerment ☐ Air Quality

8. What language is the Sustainability in Environmental Resources Management Program taught in

at the University of Malta?

☐ English ☐ Maltese

☐ Italian ☐ Arabic

9. What do you think that the duration of the program is?

○ 1 year

○ 2 years

○ 3 years

10. What application process do you think there is for entry into the program? Check all that apply.

☐ Letters of reference ☐ GRE

☐ Transcripts ☐ Large Application fee

☐ Small Application Fee ☐ None of the above

11. What nationality are the majority of student's that apply for the program? Check all that apply

☐ Maltese ☐ American

☐ German ☐ Italian

☐ Chinese ☐ Norwegian

☐ UK ☐ South American

☐ Japanese

Bibliography or References

Amin, S. '. (2006). The millennium development goals: a critique from the South. *Monthly Review 57 (10)*. Retrieved from http://monthlyreview.org/2006/03/01/the-millennium-development-goals-a-critique-from-the-south/

Anderson, J. A. (1996). *Communication theory: epistemological foundations*. Retrieved from http://books.google.com/books?hl=en&lr=&id=ly8WBwYzE2QC&pgis=1

Brown, V. A., Harris, J. A., & Russell, J. Y. (Eds. . (2010). *Tackling Wicked Problems Through the Transdisciplinary Imagination*. Earthscan. Retrieved from https://books.google.com/books?hl=en&lr=&id=Evgk1z2SAeAC&pgis=1

Chaudhuri, A. (1996). The effect of media, product and message factors on ad persuasiveness: the role of affect and cognition. *Journal of Marketing Communications*, *2*(March 2015), 201–218. doi:10.1080/135272696346051

Cheng, X., Liu, J., & Dale, C. (2013). Understanding the characteristics of internet short video sharing: A youtube-based measurement study. *IEEE Transactions on Multimedia*, *15*, 1184–1194. doi:10.1109/TMM.2013.2265531

Craig, R. T. (1999). Communication Theory as a Field. *Communication Theory*, *9*, 119–161.

Dodds, S. (1997). Towards a "science of sustainability": Improving the way ecological economics understands human well-being. *Ecological Economics*, *23*, 95–111. doi:10.1016/S0921-8009(97)00047-5

Gladwell, M. (2006). *The tipping point: How little things can make a big difference*. Hachette Digital.

Godemann, J., & Michelsen, G. (2011). *Sustainability Communication: Interdisciplinary Perspectives and Theoretical Foundation*. *Sustainability Communication: Interdisciplinary Perspectives and Theoretical Foundations*. Springer. doi:10.1007/978-94-007-1697-1

Hartmann, P., & Apaolaza-Ibáñez, V. (2010). Beyond savanna: An evolutionary and environmental psychology approach to behavioral effects of nature scenery in green advertising. *Journal of Environmental Psychology*, *30*(1), 119–128. doi:10.1016/j.jenvp.2009.10.001

Herzig, C., & Godemann, J. (2010). Internet-supported sustainability reporting: developments in Germany. *Management Research Review*, *33*, 1064–1082. doi:10.1108/01409171011085903

IPCC. (2014). *IPCC : Greenhouse gas emissions accelerate despite reduction efforts Many pathways to substantial emissions reductions are available*. Retrieved from http://www.ipcc.ch/pdf/ar5/pr_wg3/20140413_pr_pc_wg3_en.pdf

Janicke, M., & Jorgens, H. (2000). Strategic Environmental Planning and Uncertainty:, *28*(3), 612–632.

Kaid, L. L., & Sanders, K. R. (1978). Political Television Commercials: An Experimental Study of Type and Length. *Communication Research*, *5*(1), 57–70. doi:10.1177/009365027800500103

Killingsworth, M. J. (2007). A Phenomenological Perspective on Ethical Duty in Environmental Communication. *Environmental Communication: A Journal of Nature and Culture*, *1*(1), 58–63. doi:10.1080/17524030701334243

Kiron, D., Kruschwitz, N., & Haanaes, K. (2012). Sustainability Nears a Tipping Point Sustainability Nears a Tipping Point. *MIT Sloan Management Review*, *53*(53213), 69–74.

Lindenfeld, L. a., Hall, D. M., McGreavy, B., Silka, L., & Hart, D. (2012). Creating a Place for Environmental Communication Research in Sustainability Science. *Environmental Communication: A Journal of Nature and Culture*, *6*(1). doi:10.1080/17524032.2011.640702

Luhmann, N. (1989). *Ecological Communication*. University of Chicago Press. Retrieved from https://books.google.com/books?hl=en&lr=&id=wqgVCBx3I70C&pgis=1

Markwick, M. C. (2000). Golf tourism development, stakeholders, differing discourses and alternative agendas: The case of Malta. *Tourism Management*, *21*(5), 515–524. doi:10.1016/S0261-5177(99)00107-7

McLuhan, M. (2013). Understanding media the extensions of man. New York : Gingko Press,.

Mittelstraß, J. (2001). Learning live together: New challenges to education and research in a global economy. *Prospects*, *31(3)*, 397.

Norrick-Rühl, C., & Vogel, A. (2013). Green publishing in Germany: A passing trend or a true transition? *Publishing Research Quarterly*, *29*, 220–237. doi:10.1007/s12109-013-9321-8

Pew Research. (2012). Video Length. *journalism.org*. Retrieved January 1, 2015, from http://www.journalism.org/2012/07/16/video-length/

Phillips, R. A. (1997). Stakeholder Theory and A Principle of Fairness. *Business Ethics Quarterly*, *7*(1), 51–66.

Polk, E., Reilly, D., Servaes, J., Shi, S., & Yakuupitijage, T. (2010). Testing sustainability : A new framework, 40–45.

Purcell, K. (2013). Online Video 2013 Summary of Findings. *Pew Research Center's Internet & American Life Project*. Retrieved from http://www.pewinternet.org/files/old-media//Files/Reports/2013/PIP_Online Video 2013.pdf

Rogers, E. M. (2004). A prospective and retrospective look at the diffusion model. *Journal of Health Communication*, *9 Suppl 1*(February 2015), 13–19. doi:10.1080/10810730490271449

Servaes, J. (ed. . (2008). *Communication for Development and Social Change*. *Communication for development and social change*. Retrieved from http://www.rasaneh.org/Images/News/AtachFile/10-2-1391/FILE634713029852060234.pdf#page=297

Servaes, J., Polk, E., Shi, S., Reilly, D., & Yakupitijage, T. (2012). Sustainability testing for development projects. *Development in Practice*, *22*(1), 18–30. doi:10.1080/09614524.2012.634177

Slovic, P., Finucane, M. L., Peters, E., & MacGregor, D. G. (2007). The affect heuristic. *European Journal of Operational Research*, *177*(3), 1333–1352. doi:10.1016/j.ejor.2005.04.006

Smith, H. M., & Lindenfeld, L. (2014). Integrating Media Studies of Climate Change into Transdisciplinary Research: Which Direction Should We Be Heading? *Environmental Communication: A Journal of Nature and Culture*, *8*(2), 179–196. doi:10.1080/17524032.2014.906479

statistics @ www.youtube.com. (2014). Retrieved from https://www.youtube.com/yt/press/statistics.html

Töpfer, K., & Shea, L. (2005). *Communicating sustainability: how to produce effective public campaigns*. Retrieved from http://195.130.87.21:8080/dspace/handle/123456789/1131

Townsend, S. (2013). *The Naked Environmentalist*. Retrieved from http://www.futerra.co.uk/work/the-rules-of-the-game-4#go=the-naked-environmentalist-9609

Trussler, S. (1998). the Rules of the Game, *19*, 16–19. doi:10.1108/eb039904

Visconti, R. M., & Quirici, M. C. (2014). THE IMPACT OF INNOVATION AND TECHNOLOGY ON MICROFINANCE SUSTAINABLE GOVERNANCE, 420–428.

Wheeler, D. & Elkington, J. (2001). The end of the corporate environmental report ? Or the advent of ... *Business Strategy and the Environment*, *14*, 1–14.

World Commission on Environment and Development. (1987). *Report of the World Commission on Environment and Development: Our Common Future (The Brundtland Report)*. *WCD* (Vol. 4). doi:10.1080/07488008808408783

www.unesco.org. (2014). Retrieved from http://www.unesco.org/new/en/communication-and-information/freedom-of-expression/freedom-of-information/