



EIU Best Practices Series **No. 43**

EIU Best Practices 2016

Embracing Sustainability: You Can Make a Difference

A Case from **New Zealand**



United Nations
Educational, Scientific and
Cultural Organization

APCEIU

Asia-Pacific Centre of
Education for International Understanding
under the auspices of UNESCO

국제연합 유네스코 아시아태평양 국제이해교육원
교육과학문화기구

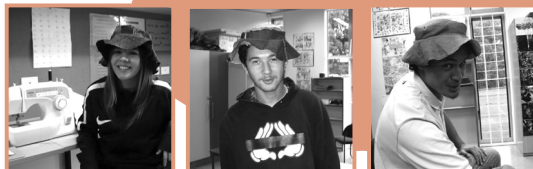


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유네스코 아시아태평양 국제이해교육원

Foreword

Since its establishment in 2000, the Asia-Pacific Centre of Education for International Understanding (APCEIU) under the auspices of UNESCO has widened its reach beyond the Asia-Pacific region to promote Education for International Understanding (EIU) and Global Citizenship Education (GCED), which has gained a great momentum with the adoption of Education 2030 and Sustainable Development Goals (SDGs) in 2015. With increasing calls for APCEIU's more active involvement and collaboration around the world as an organization with accumulated experiences and expertise, APCEIU continues to enhance pedagogical approaches and practices related to EIU and GCED through its programmes and activities.

The EIU Best Practices programme is one of APCEIU's efforts to share diverse experiences, practices and approaches to promote EIU and GCED which can inform and inspire education professionals who wish to design and implement policies, activities and educational programmes on EIU and GCED. Although we are living in a world of information abundance, where a considerable bulk of research literature, policy guidelines, teaching and learning resources are available, it is significant to identify and disseminate materials that can provide practical ideas and insights. In this regard, the EIU Best Practices aims to introduce locally-driven but globally resonant initiatives taken by educators on the ground.

A total of 40 EIU Best Practices has been published and disseminated around the Asia-Pacific region since 2006. Recently, the programme has been closely linked to APCEIU's EIU/GCED capacity-building programmes and networks, in order to generate a synergy effect. This approach has not only helped to identify and disseminate good practices, but has also brought positive results in encouraging

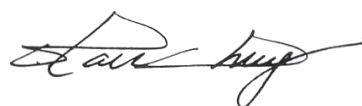
participants of APCEIU’s training workshops to continue their efforts to promote EIU and GCED after the completion of the workshops. This year, three new cases submitted by the participants of APCEIU’s capacity-building workshops are introduced with series number 41, 42 and 43.

The following case, “Embracing Sustainability: You Can Make a Difference”, contributed by Mr. Rajesh Ram from Manukau Institute of Technology in New Zealand, introduces a programme inspired by his participation in APCEIU’s Asia-Pacific Training Workshop on EIU in 2012. When he returned from the workshop, he designed a task to allow his students to think about sustainability from a global perspective, while carefully studying how he can embed EIU principles in the existing curriculum. The programme has been successful in engaging disengaged youth by giving them a sense of self-worth and helping them to understand sustainability and see their place in the global society. The valuable insights provided in this case will also be able to inform those who intend to embed EIU/GCED principles in the existing curricula.

I hope that the EIU Best Practices will continue to serve as a useful reference for educators, policy makers and practitioners in the Asia-Pacific region and beyond, who share a strong commitment for EIU and GCED.

Lastly, I would like to extend my heartfelt appreciation to Mr. Rajesh Ram for sharing his outstanding case and the New Zealand National Commission for UNESCO for lending their support.

December 2016



Utak Chung
Director

EIU Best Practices is...

APCEIU has been committed to the promotion of a Culture of Peace since its inception, in line with one of the pillars of education “Learning to Live Together.” A Culture of Peace has been a key principle at the core of UNESCO’s ethical mission. It involves a set of values, attitudes, and behaviours that can be taught, developed, and improved upon to enhance mutual understanding and conflict resolution. Attaining a Culture of Peace requires transformation of institutional practices, as well as individual values and behaviours in which education plays a crucial role in the process. As a major educational tool aimed at promoting a Culture of Peace, EIU addresses issues related to cultural diversity, globalization and social justice, human rights, peace and sustainable development. It focuses on increasing the capacity of learners to deal with issues of everyday life, to resolve community conflict and to enjoy human, political and civil rights to a greater extent.

APCEIU launched EIU Best Case Studies in 2006 in cooperation with the UNESCO Member States in the region to encourage educators, scholars and activists to implement and share local initiatives on EIU. It is an outreach programme that invites them to share their efforts in promoting education for a culture of peace in different social and cultural contexts. Now renamed as EIU Best Practices in order to further encourage the participation of practitioners in the field, the programme seeks to promote and collect innovative practices based on optimal classroom conditions and activities, school climate, community and social atmosphere, and disseminate them throughout the region.

The programme is conducted through the following steps: 1) Call for Applications: APCEIU sends announcement letters along with application forms

and guidelines to the 47 National Commissions for UNESCO, UNESCO field offices, major National Institutes of Education in the region and APCEIU's MOU partners in the region; 2) Screening and Selection: Submitted applications are reviewed by the Screening Committee, composed of experts, who then select the best practices; 3) Field Visit: APCEIU staff undertake field visits to the programme sites of the selected cases to confer the EIU Best Practices awards, conduct field observation and interviews, and provide the selected applicants with the guidelines for the final report; 4) Submission of the Final Reports: Selected applicants submit the final reports to APCEIU based on the guidelines; and 5) Publication and Dissemination: Final reports are published as a monograph series and disseminated throughout Asia and the Pacific region.

Given the favorable and enthusiastic responses from the region, and support from the National Commissions for UNESCO, APCEIU wishes to expand the positive momentum built thus far and further its efforts for the coming years.

APCEIU encourages educators, scholars, and activists from the Asia-Pacific region to apply and share their experiences and perspectives. The Centre expects that through the EIU Best Practices, diverse practices of EIU will be widely shared throughout the entire region and beyond, thus contributing towards achieving a Culture of Peace.

Contributor



Rajesh Ram

Science/Biology Teacher
Manukau Institute of Technology,
School of Secondary and Tertiary Studies
Auckland, New Zealand

Mr. Rajesh Ram is currently working as a science/biology teacher at the School of Secondary and Tertiary Studies of the Manukau Institute of Technology in Auckland, New Zealand. He graduated from the University of Auckland where he majored in Plant Pathology and Entomology. He is currently undertaking doctoral studies in Education at the University of Auckland. His research interests are in biosecurity and biosecurity education.

Acknowledgments

I would like to thank the New Zealand National Commission for UNESCO for supporting my application to participate in the Asia-Pacific Training Workshop on EIU organized by APCEIU in 2012. I would like to thank Ms. Katherine Wong, Senior Lecturer at the Manukau Institute of Technology for her help and I would like to thank the previous principal Ms. Michelle Hards and the current principal Mr. Toe Pune.

Summary

My report follows an intellectual journey, one where I encountered a shift in perception from a regional and national perspective to a global perspective. This journey was inspired by my experience at the 12th Asia-Pacific Training Workshop on Education for International Understanding (EIU) in Seoul, Republic of Korea in 2012. This journey also shows how important it is for educators to include in their focus not only national and local narratives but also global narratives of sustainability, accepting diversity and achieving global peace in the uncertainty of the post-modern world.

In my pursuit to include a global narrative, I arrive at an educational approach because experience has shown that education offers a space to effect social change. Education not only helps build affective states of arousal to topics of salience but also gives individuals the capacity to make independent judgments and to choose how they will respond to issues in a way that forces us to deliberate between individual preferences and collective need, a critical aspect of democratic societies.

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Embracing Sustainability: You Can Make a Difference

1. Introduction and Background

Manukau Institute of Technology

A biology educator by profession, I have taught at various educational institutions in New Zealand. Currently, I am teaching at the School of Secondary and Tertiary Studies, Manukau Institute of Technology, Auckland, New Zealand. The school is located in a very low socio-economic area of South Auckland. South Auckland can be a violent place at times and many students that attend the school can be prone to the self-harm, violence, passive-aggressive behavior and drug and alcohol abuse, and are often disengaged. In light of this, any educational programme designed to engage these students had to not only successfully engage disengaged youth but at the same time give youth a sense of self-worth, and pride and allow them to realize their place in the global society. It appeared that the ideal task would be one that had a balance of both theory and practical components.



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Participation in the Asia-Pacific Training Workshop on EIU (APTW)

The idea to create such a programme came as a result of my attendance and participation in the 12th Asia-Pacific Training Workshop on Education for International Understanding (EIU) organized by APCEIU in Seoul, Republic of Korea from 27 August to 7 September 2012. The workshop took me on a stimulating intellectual journey where I was empowered to think from a global perspective. EIU principles are all about using education as the key initiative to achieve global peace, prosperity and sustainability. EIU sees education as the key concept in changing stereotypical beliefs about key social issues including accepting diversity, achieving global peace and prosperity and sustaining our natural resources.

According to EIU, humanity faces the challenges of a rapidly changing global climate. The only way to better the planet for all humanity is by adapting to rapidly changing global beliefs through promoting and adapting education to challenge stereotypical beliefs.



▲ Participation in the 12th Asia-Pacific Training Workshop on EIU

Relevance to the New Zealand Curriculum (NZC)

A critical part of the program was its compatibility with the New Zealand Curriculum (NZC). The task had to be designed to meet curriculum objectives specified by the New Zealand Qualifications Authority (NZQA) and the

Ministry of Education (MoE). With this in perspective, a sustainability-themed task was designed. This task was approved to use in a secondary school setting by NZQA after going through the external moderation process by an anonymously nominated NZQA curriculum expert. Moreover, students who complete the task and related activities are awarded six credits that contribute towards their formal National Certificate in Educational Achievement (NCEA) qualifications. To gain this qualification, a minimum of 80 credits must be attained over the course of one year.

Embedding EIU principles

One of the biggest challenges was keeping the passion and knowledge that I had learned from the conference about implementing EIU principles into my lessons vivid in my memory. I achieved this through critically evaluating my programme against EIU values and principles in the first week of my return from the workshop. Consequently, after evaluating the programme, I came to the conclusion that the best way forward was to get EIU principles embedded into the existing programme rather than teaching EIU principles as an independent unit of work. This integration would be complicated due to time and resource constraints.

The key to embedding EIU principles was to carefully study the curriculum to see how the curriculum could support the inclusion of EIU principles, a critical factor for any educator who wants to include EIU principles in their programme. All educators are controlled to some extent by curriculum constraints. Curriculum in some places can be very rigid and in others very flexible. The New Zealand Curriculum (NZC) is very flexible in the sense that curriculum content is not specified. Although the learning objectives are specified, the ideas and resources educators use to teach learning objectives are not. This setup means



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that educators have a lot of freedom in relating particular concepts to the learning objectives. In this way, the NZC provided the ideal platform to implement EIU principles. With these key concepts in mind, the task was created over a period of four to six weeks. The task was trialled over a period of two weeks by giving it to an overseas student who at the time resided with a fellow colleague. The student was asked to note down the difficulties she faced and make any suggestions that she thought would make the task easier to understand.

Bringing real-world issues into the classroom

The concept of using education to create awareness of global social issues is not, of course, limited to environmental education. Paulo Freire saw education through the mastery of skills and knowledge as oppressive. He proposed that education should be about developing a sense of critical consciousness that allows people to not only question the status quo but understand causes of their shortcomings and empower people to produce new knowledge (Freire, 1973). The cry for school curriculum to be relevant and to mirror real world issues has been raised by both students and researchers alike. For example, Hodson (2011) argues that the current school science curriculum does not serve the interests, aspirations and needs of the modern citizen. He argues for the curriculum to be more relevant to give students an opportunity to tackle real-world issues that have a scientific or environmental component. Consequently, Ram, France and Birdsall (2016) argue that New Zealand Year 9 students should be taught biosecurity related concepts because it is a highly relevant issue in contemporary New Zealand society. With these key concepts in mind, a task was created that could not only engage disadvantaged youth but instill in them the principles of EIU and provide students with an opportunity work towards finding a solution to real world problems.

2. Description of the Programme

Goals and objectives

The body of work was designed to allow students to think about sustainability from a global perspective. It allows students to reflect on their behavior which

leads students to think about how they can contribute to building a sustainable future. The main conceptual goal of the task is to allow students to realize that through education, solutions can be found for environmental issues. It is important for students to develop an understanding of sustainable development at both conceptual and practical levels. Developing a conceptual understanding of any issue means knowing and understanding more than just facts. Good educational outcomes should be focused on developing a young person's capacity for independent judgment (Elliot, 1994).

Conceptual knowledge allows students to develop a deeper understanding of an issue and most importantly transfer their knowledge into new situations and apply new concepts. Moreover, education should not be about learning structures of knowledge but about understanding meaning and significance, to allow the mind to adapt with rather than adept to knowledge structures (Elliot, 1991).

Students need to understand that they are members of the global community and that the choices they make can make a difference in the world. The course of work allows students to reflect on their consumer behavior and realize how their actions can lead to catastrophic events in people's lives and on the planet. The course of work focuses on developing a student's ability for responsible and intelligent action inside an established network such as a school. It allows the student to realize that education allows independent and flexible relationships which prompt responsible action in the face of adversity and uncertainty (Posch, 1999)

Environmental education should lead to intelligent action. This type of education is different from traditional knowledge delivered in school which can be static and divorced from practical application, purpose and values which underpin their construction. Furthermore, because the majority of students do not have their own views about environmentalism, there is a risk that students may end up taking teachers personal views on the issue. Hence, environmental and sustainability education should occur through experienced-based topics which emphasize on personal involvement and motivate students to act; build critical awareness that allows students to identify and frame problems; show the complexity of the problem and allow interdisciplinary learning and solutions. All of these provide students with the opportunity to tackle matters of real social concern that promote qualities such as responsibility, resilience, initiative and independence (Vaughter, 2016).

Therefore, the specific objectives of the task were to:

- *Engage students through a practical educational brief to solve a problem*
- *Allow students to reflect on their behavior and build a conceptual understanding of consumerism and its connection to sustainability and their role.*

The specific objective of the task allows students to stop, pause and think of their consumer behavior and how it affects other people in the world. Young people often go about their daily lives without giving thought to pressing issues such as sustainability and how it affects all lives. Helping students develop a sense of critical consciousness about the environment could lead students to renew their connection to the environment and its care, and this could form the basis for future change.

The general objectives of the task were to:

- *Engage disengaged students through a fun sustainability-themed task*
- *Allow students to feel a sense of accomplishment through creating something out of nothing (realize that reusing/recycling is an ethical option available to them)*

The general objective of the task allows students to see themselves as capable of making a difference. Since most of the students are from low socio-economic areas, they have the understanding that they cannot make a difference in their lives let alone the lives of anyone else. In designing this task, I not only wanted our students to feel a sense achievement but also feel that in creating what they have created they have made a difference in the lives of people in another part of the world and helped save the earth's natural resources.

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The task design and procedures

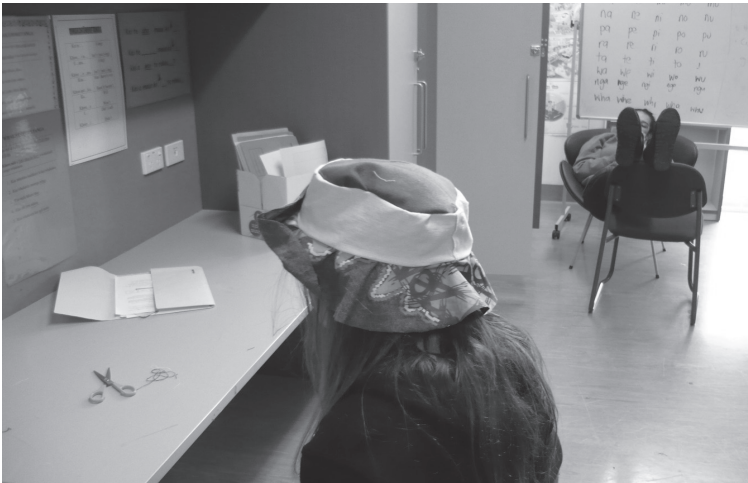
The target group for this task is 13 to 16-year-old youth who are disengaged. However, this task can be used with students from around 10 to 16 years old. It is important that students be given opportunities to learn in a manner that prompts them to exercise critical and evaluative skills. Hence led by the teacher, the class discusses consumer habits such as how things are made, where they are made, the different kinds of natural resources that are needed, and how much people are paid, etc. The idea is to allow students to connect their consumer behavior and relate it to a global scale. Students are required to look at their consumption habits, for example, how often they buy new clothes, shoes or phones. Then they are prompted to think and reflect on how their actions as a consumer in New Zealand can not only better the lives of other people around the world but also sustain the earth's natural resources.

Post discussion leads to the first of two tasks. As part of the first task, students are required to choose from one of these countries: India, China, Saipan, Bangladesh and Pakistan. Then they are required to answer questions related to cotton production. The first questions are designed to help students understand consumerism and ecological footprints. Other questions relate to the plight of garment factory workers in developing countries, and the final questions relate to the use and depletion of natural resources when cultivating and harvesting cotton.

These questions are meant to help students understand/realize how their actions affect the lives of not only people working in garment factories but the use of earth's natural resources. When students are completing the task (at the beginning of class, during class and at the end of class), the teacher constantly reminds and discusses with the students about how they can make a difference through their consumer habits and how this can change the world. Recent research shows that teacher involvement in class discussions propels the learner to greater heights of critical thinking (Fung, To & Leung, 2016). At the end of the task, students are reminded that the most effective way to sustain the natural resources, protect the environment and change people's lives in developing countries is through consuming less and reusing items.

The Bucket Hat Task

The main task involves students bringing from home used and old clothes (purchasing of new fabric is strictly prohibited). Following this, students follow instructions and engage in a task that includes; taking a precise measurement creating a prototype hat with paper and progressing this design into creating a hat using the old clothes that they have brought from home. In this way, students are introduced to solving a problem that mirrors a real-world issue that is relevant and gives students an opportunity to tackle a real-world problem that has a sustainable educational theme. Including environmental or sustainable issues that are relevant to the nation and the world in the curriculum offers an excellent opportunity for students to construct an understanding that is personally relevant, meaningful and important.



▲ The bucket hat, made from used clothing that students brought from home.

3. Reflection and Evaluation

Success

The task was implemented in 2012, and the programme has been running to date. The task has proven extremely successful in engaging disengaged youth and giving them a sense of self-worth, helping them to understand sustainability and allowing them to see their place in the global society. The key outcomes of the task achieved include:

- *Students taking the concept of sustainability and applying it to their wider lives.*
- *Students sharing their knowledge with their immediate family and friends.*
- *Students realizing that they hold power to change the world through their purchasing power.*

The task and related activities have also been offered to Corrections New Zealand to be used with youth sent to correctional facilities. Moreover, as mentioned, the task is approved to use in a secondary school setting by the New Zealand Qualifications Authority insofar as students who complete the task, and related activities are awarded six credits that count towards their formal National Certificate in Educational Achievement (NCEA) qualifications. The task and related activities form the backbone of the Year 11 curriculum at the school and as a result accomplish the key outputs of:

- *Developing in students an immediate understanding of sustainability and students role in the global society.*
- *Developing in students the concept of critical reflection in regards to everyday behavior related to sustainable living.*

The distinctive features of this programme include students developing:

- *A conceptual understanding of how education can help find solutions to global problems.*
- *An understanding of their place in the wider global society.*
- *An understanding of the concept of global society.*
- *An understanding of the collective power of consumers.*
- *An understanding of the concept of consumerism, sustainability, cotton production and the plight of garment factory workers.*
- *A sense of accomplishment by creating something from recycled clothing.*

Limitations

One limitation of the task was its complexity, because the task came under the NCEA Technology domain and certain curriculum and technical skills had to be included. For example, students had to take measurements of themselves, use the measurements to create patterns and build a prototype, document whether the measurements were correct, by commenting on how well the prototype hat fit, and finally create a second set of patterns to create the final product. These steps

at times were overwhelming for some students. A possible solution to this could be allowing more time for students to complete their measuring, prototype-making and pattern-making phase.

4. Suggestions and Conclusion

Educational agencies such as schools can maximize opportunities to make environmental education personally relevant by changing learner behavior through embedding practical initiatives that build conceptual knowledge. These opportunities could include implementing a curriculum that provides an in-depth knowledge of the issue; teaching interrelationships that exist within and between environments, and providing targeted learning opportunities for learners to connect emotionally with the concept. All of these can generate a desire in students to act in the intended way (Jensen, 2002).

As educators, we have the power to empower students, but at the same time, we run the risk of falling into routines of teaching, marking, entering grades and reporting. Very little to no time is spent on reflecting on our practice. This routine, to some extent, can be attributed to curriculum constraints and a prescribed syllabus. The Asia-Pacific Training Workshop on EIU was very effective in modeling the concepts promoted by Jensen thus allowing educators



▲ Educators performing a skit at the Asia-Pacific Training Workshop on EIU

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The key message was to promote the principles of EIU through embedding it in their daily delivery of lessons.

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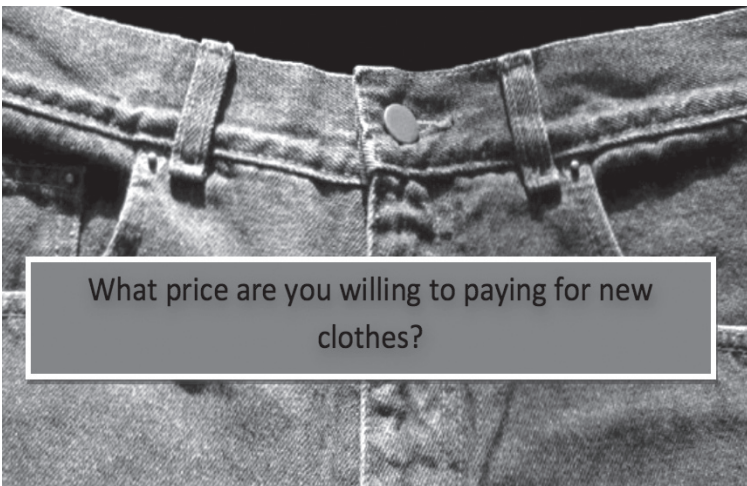
to stop and reflect on their practice. Through skits, plays, and problem-solving activities, the coordinators and educators were able to engage people from many different countries. The key message was to promote the principles of EIU through embedding it in their daily delivery of lessons.

This programme was one of the two programmes that I initiated into my practice as a result of attending the workshop in Seoul. The other programme relates to raising awareness about violence in schools and communities. As educators, we have the power to transform the world and make it a better place for all. Embedding EIU principles in our daily delivery of lessons is a definitely one way of achieving this goal.

Appendix A

Questionnaire on Cotton Production (Pre Task)

COTTON INDUSTRY: You find the truth



In this exercise we will be looking at our CONSUMPTION habits. How “YOU” as a consumer in Aotearoa, New Zealand can help save PLANET EARTH’S natural resources.

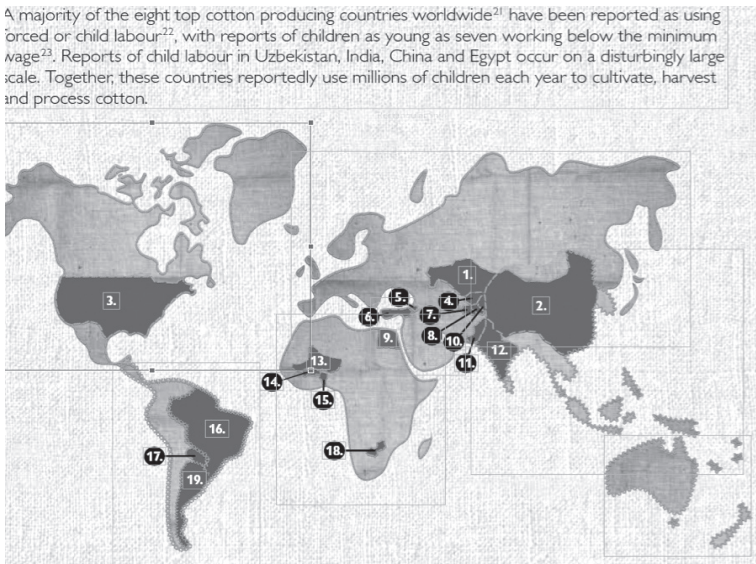
Love new clothes, like looking cool, what price are you willing to pay for the clothes you wear. Have you thought about?

- *Where your clothes come from*
- *How your shopping habits affect the rest of the world*
- *What if you chose to live with a little less so the future could have a little more*

Cotton or White Gold generates tens of billions of dollars in profit for countries and big businesses that grow and manufacture it. However, for the many people that harvest the crop it brings misery. Cotton manufacture is also linked to pollution of the environment through pesticide use and over use of the earth's natural resources.

Your task is to follow the production of cotton through a simple 5 step lifecycle and answer questions. For steps 1, 2 and 3 you will be looking at developing countries like Uzbekistan, India, China, Saipan, Bangladesh, and Pakistan where cotton is grown, processed and exported. For steps 4 and 5 you will be reflecting on your own personal behaviour.

WHERE DOES IT OCCUR?



Name the country (_____) you are researching and label 18 other countries on the world map where cotton is produced. The names of the countries are given below; write the correct number beside the country.

	Kazakhstan		Pakistan
	China		India
	USA		Mali
	Uzbekistan		Burkina Faso
	Azerbaijan		Benin
	Turkey		Brazil
	Turkmenistan		Paraguay
	Tajikistan		Zambia
	Egypt		Argentina
	Kyrgyzstan		

The cotton production process



What is CONSUMERISM?

Which developing country are you researching and what is their native language?

How is cotton production affecting the environment and people of the country you have chosen? Comment on the types of pollutants that are released in the environment and how it affects people.

What are the conditions under which workers are employed at the cotton factories? Comment on: How long are the working hours? Is it good or bad, and why?

How much money are cotton pickers or factory workers paid? Is it fair, why is it fair or not fair?

If you knew children as young as 7 years old were used to create your favourite brand of clothing would you continue buying that brand and why.

Are workers punished in the cotton factories and cotton plantations? Should punishment be used to make workers work harder?

How can YOU use your POWER as a CONSUMER in New Zealand to make a difference in the lives of people that grow, harvest cotton or work in garment factories in developing countries?

In New Zealand we tend to recycle a lot our waste products. What are the good and bad effects of recycling?

By now you may have realised that making a new product requires a lot of materials and energy. Raw materials must be extracted from the earth, and the product must be made and then transported to wherever it will be sold. The activity that follows is a simple action that you will be undertaking to control the harmful effects of consumerism.

The most effective way to save; the natural resources, protect the environment, and save money is through REDUCTION and REUSE.

So for the following activity you will be required to bring from home; old, undersize or oversized clothes that you no longer wear to make a hat.



Appendix B

Student Instructions for the Bucket Hat Task

1. Introduction

This assessment activity requires you to take measurements, create a pattern, carry out testing procedures and construct a Bucket Hat. You will be given the processing operations (the steps in making a Bucket hat), and the testing procedures and you will carry these out to process a successful product.

The specifications for your Bucket Hat are:

- *The bucket hat is the correct shape/ should fit snugly (fit for purpose)*
- *The bucket must be made in class by the student*
- *The bucket hat should match the pattern created by the student*
- *The bucket hat should be not be falling apart because of poor stitches (start and finish with back stitch)*

You will be assessed on:

- *whether your Bucket Hat meets the specifications*
- *the manner in which you implement the processing and testing procedures and follow the Safety plan to create the Bucket Hat. Your independence, as well as your accuracy and efficiency, will be taken into account.*

2. Preparatory activity

To prepare for this assessment task, you must:

- *complete Activity 1 (answer all questions)*

- *establish the techniques you will use, including:*
 - *one or more of measuring (for example, body size, positioning of grainline, hems) and/or marking (for example, transfer of pattern markings, marking hemlines)*
 - *one or more of sizing (for example, working out pattern size, proportions), shaping*
 - *one or more of joining and/or assembling (for example, seams)*
 - *one or more finishing and/or detailing (for example, pressing, top stitching, applied design)*
- *select your materials, by bringing from home old, oversized, or undersized clothing, for example, old shirts, jeans etc*
- *decide what tests you will need to apply:*
 - *visual checks of sewing to ensure, for example, that seams are straight, correct stitch length is used, and that seams are sealed, intersect and are pressed where relevant*
 - *visual checks to ensure, there are no gaps in your stitches*
 - *fitting checks, for example, at the stage where the item can still be altered if necessary*
- *decide when to apply these tests*
- *familiarise yourself with each step in the construction process.*

Before you begin to make your product, check with your teacher that your specifications, materials, and tests are suitable for the standard.

If you will be making a product that you have trialled through technological practice, you must have completed all of your trialling before you begin this assessment task.

Note that you will not be assessed on your preparatory activity. However, you must have your teacher's approval for your planned product before you begin the assessment task.

3. Task

In this assessment task you will follow your construction plan to make your textile product.

Your plan will include details of the techniques and materials you have chosen to use, as well as the tests that you will apply to ensure your final product meets specifications. Follow the steps in the plan to make your textile product.

Record alongside your plan the results of the testing you carry out, and any changes you made.

Annotate a series of photographs, sketches, and samples, including photographs of your final product.

Hand in:

- *your completed paper model and garment bucket hat*
- *additional documentation including your annotated construction plan, annotated photographs of the finished product, and any other evidence of the techniques and the testing procedures you have used.*
- *Your completed sustainability questionnaire*

4. Resource A: Testing

Tests when making a Bucket Hat include:

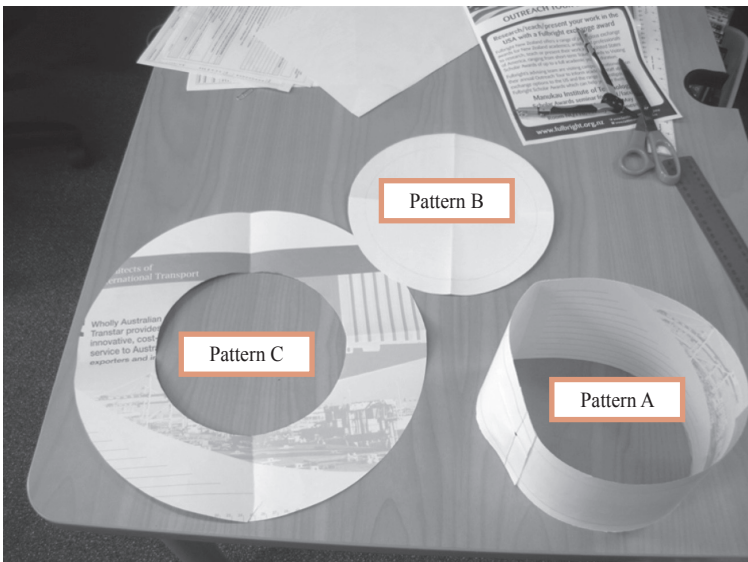
- 01. All measurements are taken correctly.*
- 02. The correct radius is worked out using the formula.*
- 03. Seam allowance is included in all patterns drawn.*
- 04. Paper model of hat must fit snugly*
- 05. Lay out the pattern pieces on the fabric to use fabric economically*
- 06. Must be able to thread the sewing machine independently*
- 07. Must sew samples of straight and curved stitches before operating sewing machine*
- 08. Must cut the fabric neatly*
- 09. Must be able to correctly pin, tack and sew*
- 10. Must visually check to ensure the selvedge edges are lined up*
- 11. Must turn the fabric to orient right side facing right side before sewing*
- 12. Cut off loose cotton and excess fabric*
- 13. Correctly cut to ease the fabric*

Classroom Health and Safety Regulations

- *Bags must be placed under the desks*
- *Long hair must be tied up.*
- *Chairs should be tucked under when you stand up.*
- *Shoes should be worn at all times.*
- *Return all equipment to its storage area.*
- *Do not run or behave in an unsafe manner.*
- *Sewing machines should not be switched on until they are threaded up.*
- *Guide the fabric through the sewing machine from the sides.*
Keep fingers away from the needles.

- *One person on the sewing machine at a time.*
- *Switch off sewing machines after use.*
- *Use a pin cushion to avoid dropping pins on to the floor.*
- *Do not put pins in your mouth.*
- *Broken machine needles should be wrapped prior to being put in the bin.*
- *Handle sharp equipment with care.*

Step by Step Guide to making your Bucket Hat

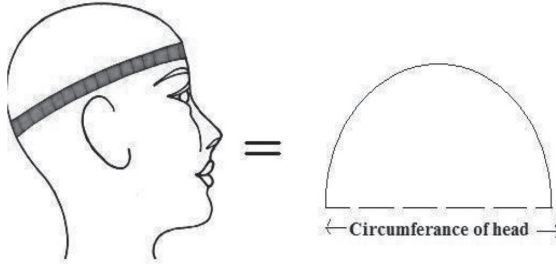


YOU ARE REQUIRED TO BUILD A PAPER MODEL FIRST BEFORE USING THE FABRIC

Materials required: Paper, ruler, scissors, compass, tape measure and glue.

You must make two copies of the pattern; one will be used to make the paper model hat, the other used on fabric

01. Using a tape measure, measure the circumference of your head. Make sure the tape measure is snug around your head, but do not gather it too tightly.

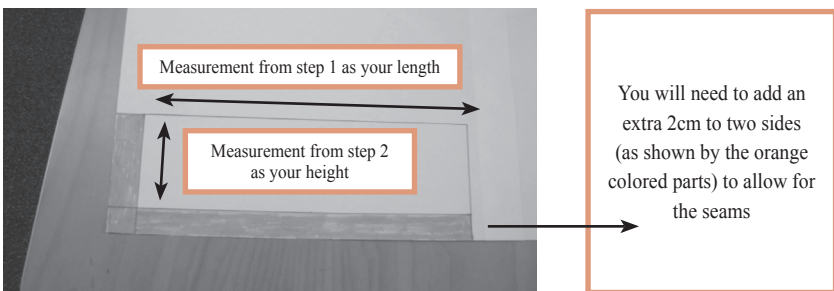


Circumference: _____ cm

Measure the distance from your ear to where the curve on your head starts. Record this measurement. Measurement between ears to start of the curve on your head: _____ cm.



02. Use the measurement in step 1 as your length and the measurement in step 2 as your height and draw a rectangle. Note, you must add a further 2cm to both ends of the rectangle to allow for the seams



03. Using the measurement from the circumference in step 1 calculate the radius. Use the following formula to calculate the radius:
If you know the circumference of a circle, the radius can be found using the following formula

$$\text{radius} = \frac{C}{2\pi}$$

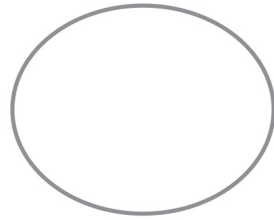
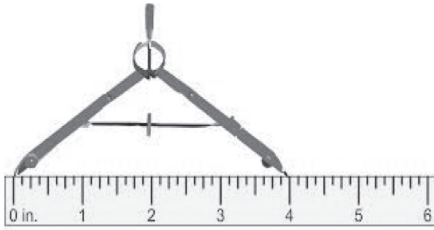
Your circumference; _____ cm

Circumference _____ $\div 6.28 (2 \times 3.14 \pi) =$ radius _____ cm

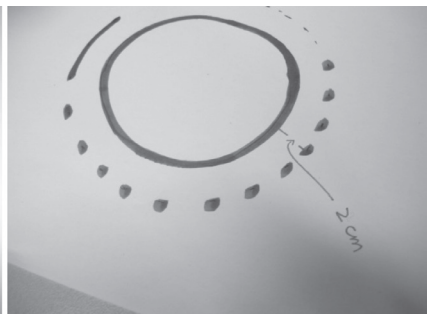
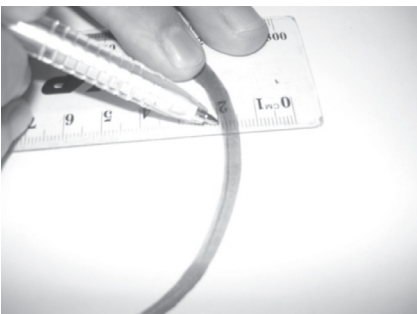
Round your radius answer to the nearest decimal point.

Radius = _____

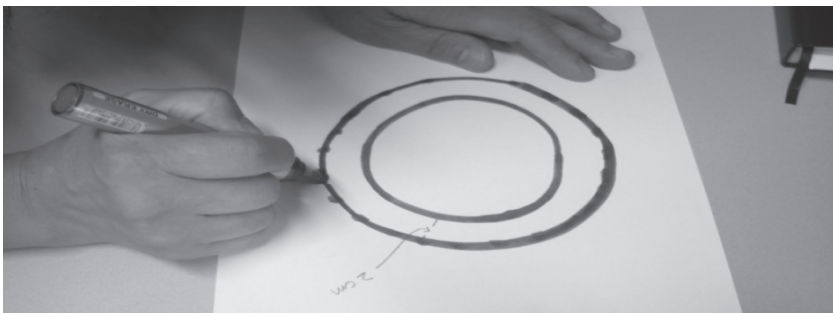
04. Stretch your compass to get the radius measurement (use radius measurement from step 3) from a ruler and draw a circle. You may require an A3 sheet of paper.



05. From the edge of the circles you have drawn mark a further 2cm to allow for the seams. The 2cm allowance should be marked all around the circle.



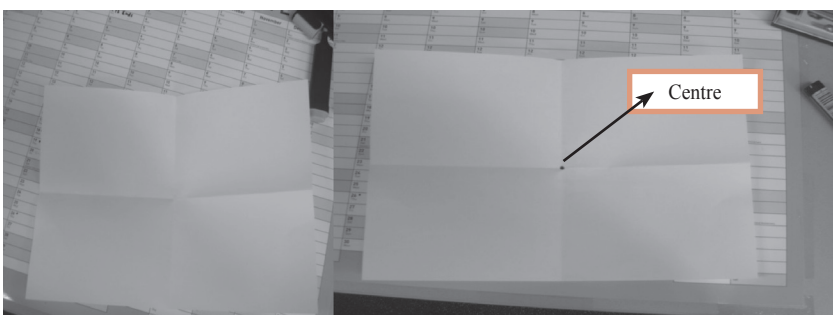
06. Next join all the dots together



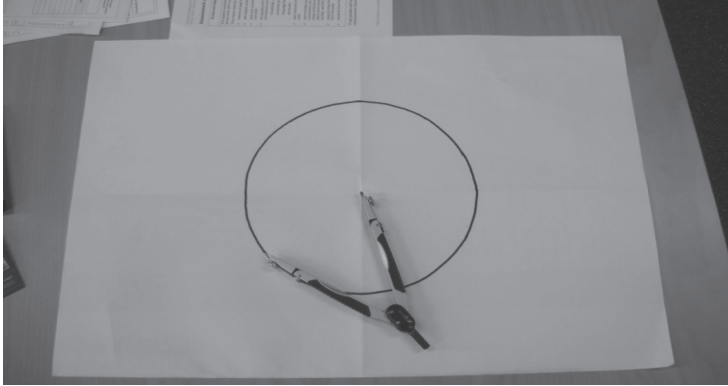
07. Using a scissors cut the circle pattern out from the paper



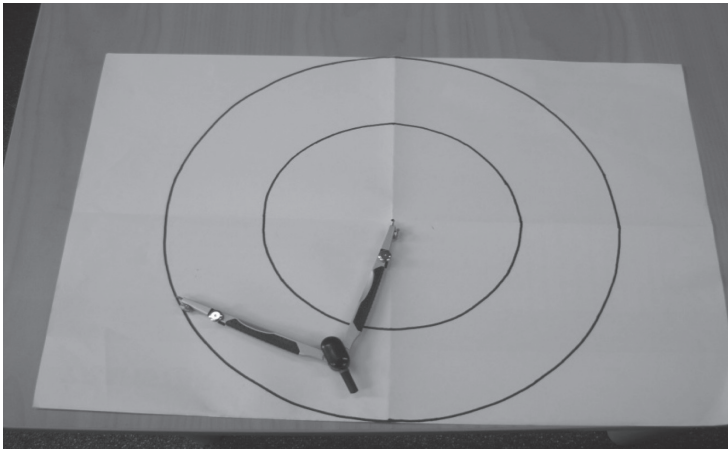
08. The next step is to make the pattern for the brim of your hat. Get a sheet of paper, fold it into halves and then quarters to find the center. (You will require an A3 or larger sheet of paper)



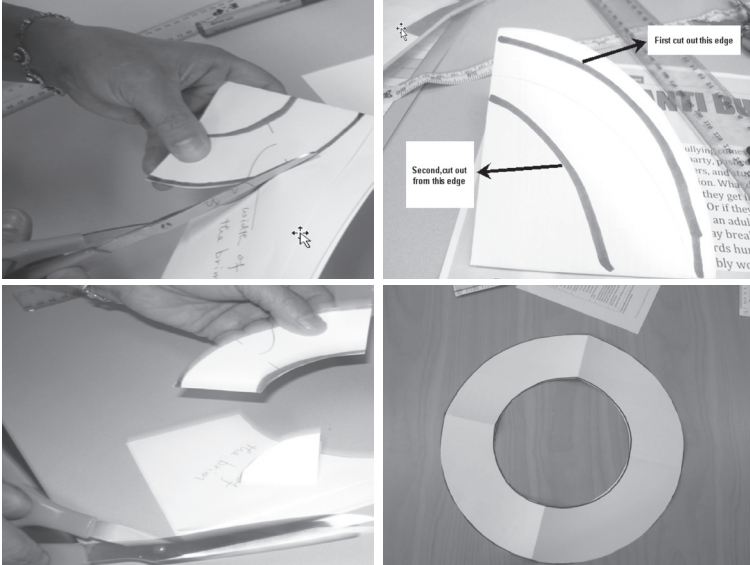
09. Next, use the radius measurement in step 3 to draw a circle. (Use the folded paper; make sure your compass needle is in the center of the paper).



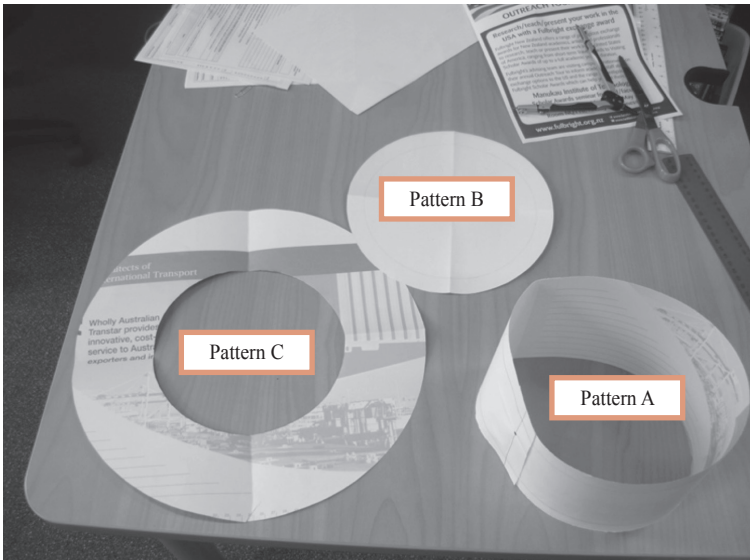
10. Next add a further 10cm to your radius measurement from step 3 and draw a second circle around the first circle.



11. Next, fold the paper back into quarters and cut the pattern for your brim out.



12. You should now have the following pieces of the pattern ready for assembly to make your paper bucket hat.

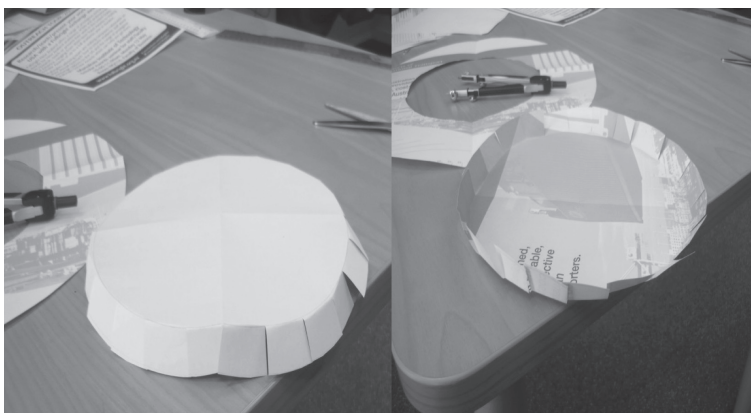


Paper Hat Assembly Guide

01. Glue the two ends of Pattern A (Bucket) together to form a circle/cylinder



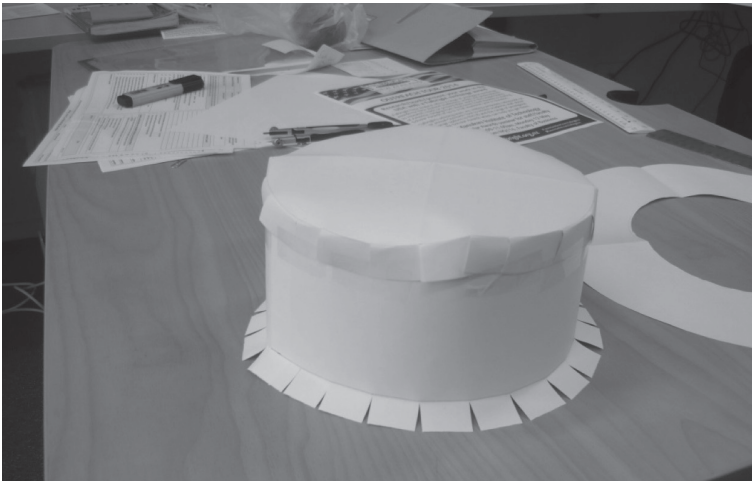
02. Make cuts along the edge of Pattern B (Crown) to the 2cm mark



03. Glue Patten B (Crown) to Pattern A (Bucket)



04. Make cuts along the bottom of Pattern A (Bucket) to the 2cm mark



05. Glue Pattern C (Brim) to Patterns A (Bucket) and B (Crown) to complete your bucket hat.



Sewing Part

Once the paper the model of your hat is completed and it fits you, you can begin using the second set of patterns you have made to mark out the fabric for cutting and sewing.

A Sewing Machine Operating License needs to be issued by your teacher to you before you are allowed to use the sewing machine independently. To gain your sewing machine license you need to show to your teacher individually:

- *Safety procedures (in technology classroom) to be aware of when using a sewing machine*
- *You should show your ability to thread a sewing machine without any guidance*
- *You should show your ability to use a sewing machine to sew two different types of stitches*
 - *A. Straight stitch with back stitch on both ends*
 - *B. Curved stitch with back stitch on both ends*

On the successful completion/sewing of your hat without any complications (getting hurt or hurting others) you will be issued a full sewing machine license by your teacher.

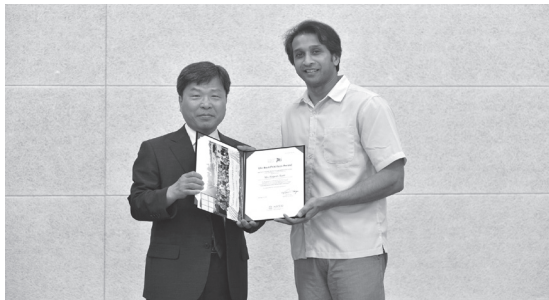
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EIU Best Practices 2016 Case Presentation and Award Ceremony



▲ Best practice case presentation at the 16th Asia-Pacific Training Workshop on EIU



▲ Conferring of EIU Best Practices Award
(from L-R: Dr. Utak Chung, Director of APCEIU and
Mr. Rajesh Ram, the case contributor)

The awardees of 2016 EIU Best Practices Award were invited to present their best practice case to international workshops and conferences organized by APCEIU in 2016. Mr. Rajesh Ram was once again invited to the Asia-Pacific Training Workshop on EIU (held in the Republic of Korea from 16 to 24 August 2016), the same workshop he participated in 2012. He explained to the participants of the workshop how his participation in the workshop in 2012 led to developing his project and encouraged the participants to get started on their own projects as soon as they return home from the workshop.



EIU Best Practices 2016

Embracing Sustainability: You Can Make a Difference

A Case from **New Zealand**



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