



**EUROPEAN
INTERNATIONAL
UNIVERSITY**



COVER PAGE AND DECLARATION

	Master of Business Administration (M.B.A.)
Specialisation:	Entrepreneurship
Affiliated Center:	Academic Board CEO Business School
Module Code & Module Title:	MGT550: Managing Operations Module Assignment: Operational Procedures & Guide
Student's Full Name:	ABDULLAH SAAD ALWAHABI
Student ID:	EIU2021143
Word Count:	4893
Date of Submission:	29-11-2022

I confirm that this assignment is my own work, is not copied from any other person's work (published/unpublished), and has not been previously submitted for assessment elsewhere.

E-SIGNATURE:

29-11-2022

DATE:

EIU Paris City Campus

Address: 59 Rue Lamareck, 75018 Paris, France | Tel: +33 144 857 317 | Mobile/WhatsApp: +33607591197 | Email: paris@eiu.ac

EIU Corporate Strategy & Operations Headquarter

Address: 12th Fl. Amarin Tower, 496-502 Ploenchit Rd., Bangkok 10330, Thailand | Tel: +66(2)256923 & +66(2)2569908 |
Mobile/WhatsApp: +33607591197 | Email: info@eiu.ac

Table of Contents

Introduction	3
Industrial Simplification Operational Procedural Manual	4
1.1 More efficient manufacturing processes	4
First: the output required to simplify the production process	4
Second, Simplify the Input Process	5
Third, simplify the conversion process	5
Industrial Simplification Operational Procedural Manual	8
Flawless Manufacturing Plan:	8
lighting	8
lighting	10
Step One: Identify the Defect	10
Step Two: Analyze the defect and find its root cause	10
Step Three: Solving the Root Cause	11
Illumination	11
Industrial Simplification Operational Procedural Manual	12
Using twenty-first century tools	12
First: Strategic thinking and disposition	12
Second: Effective Communication	12

III. Responsibility	12
Fourth: Having a clear, innovative and creative vision:	13
V. Adaptation and resilience	13
Sixth: Leadership	13
Seventh: Initiative	14
Eighth: Productivity	15
Operational Manual Social Responsibility	16
First: Industrial Standards for Waste Disposal	16
Third: Methods of Disposal of Industrial Waste	18
Burn	18
Sanitary landfill	19
Operational Manual Social Responsibility	20
Pollution Prevention	20
Green Production	20
Integration with the supplier	21
Green Product Creativity	21
Creativity of Operation Green	22
Agile production	22
Corporate Environmental Responsibility	22
Employee Engagement	23

Conclusion	24
References :	25

Introduction

In this research project, we will address the industrial simplification processes of the Industrial Tractor Company as a series of research and development activities aimed at transferring all possible new scientific and technological theories and applications to support the elements and components of industrial activities, from manpower, equipment, technical facilities, methods, methods, raw materials, working atmosphere and vitality.

This is to achieve the optimal use of all these elements in order to improve product specifications, increase growth, improve production techniques, and rational use of various forms of natural resources demonstrates the clear development of modern products of the effort expended in these activities.

Industrial simplification, the pillar of flawless manufacturing management, aims to reduce losses in all elements of industrial activity and remove parts that do not represent added value to customers.

The principle of simplification aims to reduce waste in all forms and areas by simplifying the inputs and processes of activities while maintaining their production levels.

The simplified approach also aims to remove all unnecessary elements from the three elements of organizational activities. Outputs, such as the value of goods and services provided Inputs such as raw materials, equipment and labor Operations such as conversion and processing.

Industrial Simplification Operational Procedural Manual

1.1 More efficient manufacturing processes

First: the output required to simplify the production process

It is the image that the product presents to the customer. Market research reports and customers indicate that new and different customer segments can be reached by reviewing the features that the goods offer to customers. By eliminating some unnecessary product functions, some divided customers can reduce the product price, product weight or product size, thus reaching a new segment in the market, such as smart tractors, and producing products with different specifications, sizes and weights to meet customer demand for commercial purposes and industrial and enterprises, different series of tractors are produced to handle different groups of customers, at the same time, some product functions that are not needed by customer groups are removed. This reduces the number of components and fewer workers, as well as reduces the production process, thereby reducing prices and increasing production volumes by simplifying the design. The same applies to other products. (Smith, J., et al ;1997)

Second, Simplify the Input Process

As an example of the necessary input, the process of forming sheet metal in the manufacture of tractors illustrates this, since in the composition of the components of the tractor body, a large amount of waste is generated that is an unnecessary input. This waste can be reduced through good operation and equipment design. So, reviewing the production process leads to the detection of elements that may be unnecessary inputs or outputs and their removal or reduction.

for example, the time we need to run a component on the machine is the only useful part of the total time required for the process (and brings added value to the customer) while a lot of time is wasted preparing that component, putting it on the machine, operating the machine, etc. This time is wasted. It is clear from these examples that there is a wide range of simplification studies that can reduce this waste. (Nixon, 2001)

Third, simplify the conversion process

The production of molten iron steel sheet through two stages by canceling part of the conversion process or simplifying the conversion process itself, with the continuous development of technology in this field, and the cancellation of the first stage, direct steel can be produced from molten iron, by eliminating this stage, operating times can be reduced and energy use can be reduced (due to cooling and reheating between the two stages) and rods and wires are produced, and plates, directly from molten steel with minimal losses. (McLaughlin, 2009)

As an important principle, the process of simplification and simplification of production methods, work procedures, mechanization, equipment and tools should enter the second stage after simplifying the operation process itself to the best possible condition as possible, as in the previous example (steel industry), is the role played by the work of study and engineering. (Hyde, et al; 2011)

Simplification processes are not limited to the production sector alone, but extend to all other sectors such as procurement, sales, research and development, which develop the product and consume a large amount of time and money to conduct many tests, which can also be simplified. Another area of waste in most sectors is the number of documents and documents above the offices that are exchanged between departments, and sometimes no one uses them and

sometimes the huge amount of information generated makes the process of reaching a specific statement difficult, so these outputs in each site need a great effort to simplify the documentary cycles and the information generated to reduce losses and increase utilization. (Grieshaber, et al ; 2000)

The principle of simplification has had the greatest impact on competitiveness by reducing the value or quantity of work (number of components, mechanization processes and number of workers) and thus the cost has decreased and prices have decreased while maintaining the same level of output. (Ducksters,2013)

Another effect of simplification is to reduce the time of various operations and thus the time of supply to customers, which is one of the elements of competitive strength and is associated with the previous element also the speed of response to customer problems in the after-sales service in addition to the previous effects of reducing prices and time of supply and service, the process of simplification can be the result of technological breakthroughs that lead to an improvement in the ability of the product itself, and as an example, the television industry has been switching from large screens (vicious) to screens LCD The use of microprocessors and integrated circuits improved the capacity of the product, simplified the design and lightweight of the device, and became easily portable and transportable. (Cooper, et al ; 2012)

Another example of simplification resulting from supporting the capacity of the product is the improvement that took place in the form of a decrease in tractor fuel consumption, which came as a result of reducing the weight of the tractor, in which value analysis activities were used, which are activities that aim to study every element and every process involved in the manufacture of a commodity and compare its function with its cost to achieve the same function and benefit but at a lower cost. (Cherif, 1995)

ز

Industrial Simplification Operational Procedural Manual

Flawless Manufacturing Plan:

The defect costs you money and so does your customers, and if it will cause your customers to pay more money, they may look for an alternative for you. Competitiveness also needs a lot of flexibility, so you must be able to meet the changing demands of your customers quickly and efficiently and adapt to the rapidly changing work environment.

So how will you be able to reduce the defect and do business more efficiently?

How will you be able to keep up with the changing demands of customers?

Flawless manufacturing is one of the theories that can help you streamline and organize your work environment so that you can minimize defects and keep your employees, equipment and workplace able to respond to what is necessary in the moment. (Nixon, 2001)

lighting

Just as the concept of "defect-free manufacturing" can be applied in offices and other work environments, it can also be applied in manufacturing facilities. It is useful to associate words such as "inventory", "customers" and "production" with anything you deal with – be it data, documentation, knowledge, services, etc. The "flawless manufacturing" approach is based on creating efficiencies and eliminating defective steps that add no value to the final product. To create efficiencies, "defect-free manufacturing" takes a customer-value-focused approach that answers the question: "What makes a customer willing to pay money?" Customers want value

and will only pay if it can meet their needs. They cannot pay for defects in the product or for the additional cost of storing large quantities of it. In other words, they cannot pay as a result of the defect for which you are responsible. A disadvantage is anything that does not add any value to the final product and there are eight types of it that you should keep an eye on. (Hurtley, 2012)

1. Overproduction: Do you produce more than customers demand?
2. Waiting: How much time is lost between production steps?
3. Storage (work in progress): Is
4. Your supply levels are very high and do you have many works in progress?
5. Transportation: Do you transport your materials efficiently?
6. Overprocessing: Do you have to deal with the product many times otherwise it will not work efficiently?
7. Movement: Do employees and equipment move from one task to another efficiently?
8. Errors: How long do you spend to find and fix production errors?
9. Workforce: Do you use your workers efficiently?

"Flawless manufacturing" prioritizes simple, small, and continuous optimization, such as changing the location of a tool or bringing two workstations closer to each other. When these small improvements are added to others, they can lead to higher levels of efficiency across the entire system. However, focusing on small improvements does not mean that you cannot make larger improvements if they are necessary. (Hyde, et al; 2011)

lighting

Although the goal is to get rid of as much of the defect as possible by constantly refining your processes, you probably won't be able to get rid of the defect completely. (Hyde, et al; 2011)

Flawless manufacturing process There are three main stages in this process:

Step One: Identify the Defect

According to the philosophy of "defect-free manufacturing", the defect is always there and no matter how good your process is, it cannot completely control the defect, but the philosophy of "defect-free manufacturing" means a commitment to permanent improvement. The Value Stream Planning tool is one of the basic tools used to find defects It shows how materials and processes run through your organization until the product or service is provided to your customers. It looks at how interconnected procedures and departments are and highlights the defect. When you analyze Value Stream Planning, you will see which processes add value and which do not. You can then develop a future value stream chart that includes as few activities as possible that do not add any value to product A and Service. (Cherif, 1995)

Step Two: Analyze the defect and find its root cause

Find the cause behind each of the defect processes you identified in the first stage using "root cause analysis" If a machine breaks down continuously, you may think that the problem is mechanical and decide to buy a new machine, but root cause analysis may show that the real cause is the poor level of training of the workers responsible for operating the machine who do not use it properly. (Smith, J., et al ;1997)

Step Three: Solving the Root Cause

Using one of the appropriate processes to solve the problem, determine what you need to do to solve the problem and achieve greater efficiency. (Cooper, et al ; 2012)

1. Zero defects: This system focuses attention on getting the right product the first time instead of spending extra time and spending extra money to repair poor quality products.
2. Doing the right things, the first time they do these things
3. Tool change speed This helps you build flexibility in your production system. In the automotive industry, for example, it may take days to change a line in order to produce a different model of car, but in this tool, the assembly process and assembly mechanism are designed to support rapid and efficient transformation.
4. The philosophy of the five elements: Flawless manufacturing is based on standardization, you want your tools, processes and workspace arrangements to be as simple and uniform as possible, as this narrows the way things go wrong and reduces the need to store and keep the spare parts you need.

Illumination

These technologies offer proven solutions to eliminate defects in your organization, but first remember to apply the three stages of the "defect-free" manufacturing process and deal with any problems that arise in front of you. (Charlesworth, et al ; 2010)

Industrial Simplification Operational Procedural Manual

Using twenty-first century tools

First: Strategic thinking and disposition

Proactive thinking and an open mind are essential for leadership and economic growth, as successful leaders must have the ability to act strategically, that is, be always ready to change their strategies and think critically and creatively in order to obtain new opportunities, or overcome the unexpected challenges facing them. Hence, the tractor manufacturer must make several points in this field. Attract leaders with creative and strategic thinking and disposition. Training and skills development. Installing them in a citizen found the company's low performance. Distribution of them according to priority among the departments and sectors of the company. Empowerment and powers. (Bull , 2008)

Second: Effective Communication

Successful employees know when to talk, and when to keep silent. They communicate effectively, and are able to explain to customers or employees briefly and clearly various matters, from the company's great goals, to specific specialized tasks. The company must activate this inactivating technology and communications in employing them within the tasks and skills of the communication employee. It is also keen on training and development in this aspect in all communication and distribution channels. (Cooper, et al ; 2012)

III. Responsibility

In order for the company to succeed completely, it must know how to use its authority appropriately without tightening its grip on its employees or loosening it by appointing the right person who can be relied upon, and is able to take full responsibility for his mistakes, and even expects others to do exactly the same and to make a title and lasting value be in (How to develop a sense of responsibility) (Cooper, et al ; 2012)

Fourth: Having a clear, innovative and creative vision:

for the future so that the company makes its employees effective and able to read the future of their company and create creative and innovative opportunities, and then set clear and tangible goals that can be achieved, and promote the company through them and increase growth and raise efficiency as well as greener operations. (Hurtley, 2012)

V. Adaptation and resilience

So the company must really realize that its strength lies in the ability of its employees to adapt quickly and flexibly to the changes around them, and to know the right time to take advantage of the opportunities available to them, as they do not mind and do not grow up on learning opportunities, but rather seek to acquire new skills and knowledge, and perhaps the most prominent characteristic of employees is the process of self-learning, as it is a skill that must be acquired to keep pace with the developments of the times. (Aikenhead, et al ;1999)

Sixth: Leadership

And she has many skills mentioned below. Decision making skills The skill of decision-making expresses the ability to make a decisive and correct decision quickly, and based on the available information and this skill develops with time and experience, as it is the more the employee is accustomed to it in his work environment, the more he becomes able to make decisions even if you do not have all the necessary information to make this decision This skill is considered one of the most valuable leadership skills, because it contributes to accelerating the implementation of projects and raising the efficiency of employees. (Charlesworth, et al ; 2010)

Integrity is often seen as being honest, and dealing with credibility, but it also means owning and even clinging to strong values, but in the field of manufacturing, sales or even operations, integrity expresses the ability to make sound ethical decisions, and help the company to maintain its bright positive image, so this trait is one of the most important leadership skills that must be possessed to ensure the success and prosperity of the business. (Cooper, et al ; 2012)

The skill of building relationships Leadership needs the ability to build a strong cooperative team that works to achieve the company's goal of high growth rates and increase and the participation of all team members, and even maintain this team, by strengthening and developing relationships between its members, and here it must be noted that the skill of building relationships in turn needs other skills such as effective communication, and the ability to resolve conflicts. Problem-solving skills are to solve unexpected problems facing the company, which is the ability to remain calm, and then identify the problem and propose clear and specific steps to solve it Independence When the company has its employee's independence and self-reliance, it becomes trusted by others as it allows the company to follow plans and fulfill covenants and

covenants and it also contributes to creating strong leaders and a strong team capable of overcoming unexpected difficulties and challenges that arise at any time at work. (Cooper, et al ; 2012)

Seventh: Initiative

When we hear the word "initiative", we associate it with male and female entrepreneurs, and in order for the company to be one of the major companies and high growth rates, it must take it seriously when they choose from among hundreds or thousands of applicants, so the company has to encourage the enthusiasm of employees by the company's departments and make it a necessary condition for the development of employees, and their development Allocate 20 percent of their time to the initiative. (Smith, J., et al ;1997)

Eighth: Productivity

It is the ability to leverage influence and acquire skills to work with others in order to promote the growth and prosperity of the company and benefit from the power of others and includes sub-skills: goal setting, prioritization, time management; project management; obtaining results; managing time and projects effectively; and taking responsibility for achieving results. (Hyde, et al; 2011)

Operational Manual Social Responsibility

First: Industrial Standards for Waste Disposal

The manufacture of tractors of all kinds results in strong reactions, from which waste and solid waste are exported and its liquids, and therefore we must spend on environmental protection around the application of activities in the tractor industry to combat and reduce pollution. (Cherif, 1995)

1. Environmental protection activities in the facility at the level of external operations

- A. Wastewater Management
- B. Research and Development
- C. Air and climate protection
- D. Managing pollutants and wastes
- E. Protection of surface and groundwater
- F. Protection of nature
- G. Noise and vibration reduction

2. Environmental protection activities in the facility at the level of internal operations

- A- Ongoing operations in the facility
- B. Environmental impact of programmers and projects
- c. Legal and technical advice

Second: Procedures for implementing industrial waste reduction programs

Applying modern technologies to treat industrial and hazardous waste in sustainable environmental ways, especially batteries, spent tires and others. Urgent development of the treatment area: (Bull , 2008)

- Establishment of facilities for the treatment of oils and petroleum wastewater derivatives
- Reducing irregular disposal of liquid and solid industrial waste across the company
- Urgent rehabilitation of industrial effluent lake
- Preparing a study to classify industrial waste according to its type and hazard
- Activating the sustainable treatment and reuse of industrial waste
- Establishing a database to monitor the quantities and types of industrial waste
- Sorting hazardous industrial wastes from non-hazardous ones
- Preparation of an environmental impact assessment study
- Rehabilitation of the company's departments that deal with industrial waste in terms of collection, transportation and disposal
- Activating the role of a sense of community among the company's employees
- Develop a timetable for the rehabilitation of environmentally damaged sites

Third: Methods of Disposal of Industrial Waste

Burn

The idea of incineration dates back to England in 1876, and the first waste incinerator in Germany was established in 1893 to incinerate hospital waste and some hazardous solid waste. The positive aspect is in the elimination of pathogenic microorganisms and the amount of waste is reduced to 90% also the possibility of using the resulting heat as it does not pollute the groundwater. As for the disadvantages of burning, it starts from the pollution of air, water, and soil with toxic gases carried by acid rain and the high costs of establishing, maintaining, and operating the plant, as it needs to dispose of waste from the combustion process. (Cooper, et al ; 2012)

Waste Recycling

The idea began in the early seventies for several reasons that we summarize in the depletion of natural resources, high prices of raw materials and energy, high levels of pollution, high environmental awareness among the population. Recycling is the reuse of waste after recycling, the most important of which are iron, aluminum, paper, and others. It is a threaded process that begins with the collection of materials that can be recycled, then we sort them according to their type, become suitable raw materials for manufacturing, and turn them into usable products. It has many advantages such as reducing pollution, conserving natural resources, reducing

dependence on imported raw materials, providing new industrial opportunities, jobs as well as energy. (Nixon, 2001)

Sanitary landfill

Sanitary landfill is one of the modern methods of dealing with solid waste. A hole is dug in the ground whose depth and size depend on the nature and expected amount of waste. After preparing the pit, it is isolated from groundwater with cement, clay minerals or a special type of plastic insulation to protect groundwater from contamination. The base is also equipped with a drainage network to treat rainwater and water generated during the decomposition of organic matter in the waste, in addition to a solid layer of gravel and sand placed on top of it to facilitate the access of water to the drainage network. The litter is distributed at the bottom of the pit and compacted with a special quality. (McLaughlin, 2009)

In order to obtain a positive result, the following conditions must be met when choosing.

landfill:

Stay away from groundwater and surface water sources and also from population centers Taking into consideration the prevailing wind direction in the area and it is advisable to replant the area with trees. Garbage compaction is also very effective, absorbing as much solid waste as possible, preventing cracks in which insects and rodents live and multiply, and preventing or limiting spontaneous combustion. It has many advantages, as it reduces the cost of non-economy and helps to absorb large quantities of solid waste, as it does not require high technology, as this method is complementary to other modern methods (combustion, thermal decomposition, biodegradation). (Smith, J., et al ;1997)

Operational Manual Social Responsibility

Green Alternatives to the Manufacturing Process

The company strives to achieve sustainability in its environmental and social performance in its strategies. Home This can only be achieved by achieving green productivity, so we will highlight the alternatives to the green manufacturing strategy and how to make it play a major role in environmental sustainability, as sustainability is one of the pillars of responsibility in the company, attention to it will lead the company to protect customers and the environment and contribute to reducing environmental pollution inside and outside the organization through their production of green products and cultural awareness of workers and society, which leads to leading the company to gain a competitive advantage in Highly competitive environment. (Hurtley, 2012)

Pollution Prevention

Pollution can be reduced by using technological and human techniques that contribute to preventing pollution or reducing its effects on humans, society, and the environment. (Nixon, 2001)

Green Production

Green production refers to the continuous application, strategy, and integrated environmental protection in operations, products, and services to address the causes of pollution in order to increase their environmental success and reduce their risks to humans and the environment also the approach aims to prevent pollution from its source, and that this approach is in line with the concept of sustainable development and sustainability of environmental and social performance,

which tries to completely eliminate pollution for the benefit of future generations. (Hurtley, 2012)

Integration with the supplier

The organization and suppliers depend on each other, as they have a relationship of common interest, which, when managed efficiently, enhances its ability to create double value for each of them. (Bull , 2008)

Green Product Creativity

It is characterized by taking into account the issues of recycling, disposal after the end of the product life, the use of materials that have been recycled again and are less polluting to the environment, the toxicity of the material to the human body, the environmental impact and sustainability issues at every stage of product manufacturing, and the integration of evaluation mechanisms and continuous improvement to influence the product improvement cycle refers to the application of creativity in the design, manufacture and marketing of new products that are more modern, greener, and "greener" and offer significant advantages over Traditional and competitive products because greening is less burdensome to the environment in terms of energy requirements, raw materials, air, emissions, aqueous effluents, solid waste and other environmental discharges generated during the entire product manufacturing period. (Cherif, 1995)

Creativity of Operation Green

It is a process characterized by compatibility with environmental standards set by industry and social standards and with market and customer requirements, with the aim of providing a comprehensive consideration related to energy conservation and materials, the danger of materials to humans and environmental impact, and sustainability issues in the design and implementation of processes, and integrating them into the continuous evaluation of processes and providing appropriate improvement mechanisms for the process and these two dimensions together constitute creativity for green products and creativity for green processes Green creativity where creativity represents a programmatic and regular effort that begins with taking Innovative ideas and insights and transforming them into useful products, services and methods. (Smith, J., et al ;1997)

Agile production

It is a business model that focuses on meeting customer expectations by offering high-quality products at the lowest cost when customers demand them. It serves to increase efficiency by reducing activities that add value and reduce resource utilization Lean manufacturing includes manufacturing processes using statistical control processes, design for manufacturing, reducing time, use of human resources, team building, and evaluate employee performance. (Cherif, 1995)

Corporate Environmental Responsibility

Environmental responsibility is one of the elements of social responsibility entrusted to industrial organizations, defined as companies that respect the laws and regulations issued by government agencies in order to protect the environment an environmentally responsible company is a

company that fulfills its responsibilities and carries out its activities based on environmental principles in a way that helps communities protect the environment. (Cherif, 1995)

Employee Engagement

Worker participation helps achieve goals, opens channels of communication between workers, and changes the way they are dealt with, making workers an effective factor in achieving production goals and improving the quality of administrative decision-making. Involving workers in the change process prevents workers who want to resist change and makes each of them more able to innovate and find specific solutions. (Hurlley, 2012)

For the purpose of realizing the green principle, there are four forces of organizational power, customer power, community power, and economic interests and these green process forces achieve in accordance with sustainable industrialization and the realization of sustainable development of natural resources It is a supporting force aimed at achieving the following goal: (Nixon, 2001)

- A- Greening reduces environmental impact and achieves productivity and competitive advantage
- B- Greening is an important source of opportunities for the company to achieve
- C- Establishing the principles of dealing with the green environment as an essential factor in forming a positive image of the company in society.

Conclusion

At the end of this research, we began to provide a simplified explanation for simplifying manufacturing processes in order to raise the growth rates of the tractor manufacturing company, where we prepared a procedural guide that included processes and a plan for more efficient manufacturing and also free of defects and the use of twenty-first-century skills, then we set out for social responsibility by setting standards for waste disposal and finding green alternatives to the manufacturing process. We may recognize the importance of the topics on which this research project is based, which may be beneficial not only to the tractor manufacturer but also to every organization involved in manufacturing.

I have faced a lot of challenges in this project... Here, I stop you in mentioning the rules of business arrangement, which are to reduce the costs of preparing pains, inventory under manufacture, the percentage of time of breakdowns and stoppages, as well as reducing the average number of works expected, the average time of completing orders, the standard deviation of the time of completing the order, as well as setting priorities for the first and last due time, and others, the shortest or longest time for processing. There are rules for arranging work according to machines and tools. We also need to determine all the work and the necessary manufacturing time and then do a full survey and then determine the need and priority and finally the order of work may be according to specialization and production centers and I urge my friends and colleagues and everyone who cares about the matter of operations management to go through this experience and even learn it and create advanced and creative strategies.

Thank you from the heart to both EIU and also CEO for their keenness and support to us by providing the written or visual material, directly and indirectly, thank God for completing this research project and God bless.

References :

Aikenhead, G & Huntley, B (1999) Teachers' views on Aboriginal students learning western and Aboriginal science, *Canadian Journal of Native Education*, 23 (2), 159-75. Bull, R. (2008). Small study – Big success. Retrieved October 8th 2013 from <http://primaryconnections.org.au/research-and-evaluation/images/ip-report.pdf>

Bull, R. (2008). Small study – Big success. Retrieved October 8th 2013 from <http://primaryconnections.org.au/research-and-evaluation/images/ip-report.pdf>

Charlesworth, R. & Lind, K.L (2010). *Math and Science for young children (Sixth Edition)*. Wadsworth Cengage Learning.

Cherif, A. (1995). Toward a rationale for recycling in schools. *The Journal of environmental education* 24(4), 5-10. Retrieved 27th October 2013 from [http://web.ebscohost.com.simsrad.net.ocs.mq.edu.au/ehost/detail?vid=2&sid=8f9f83a4-0bb0-4794-](http://web.ebscohost.com.simsrad.net.ocs.mq.edu.au/ehost/detail?vid=2&sid=8f9f83a4-0bb0-4794-8e08d5e225aa22c%40sessionmgr114&hid=127&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ%3d%3d#d)

[8e08d5e225aa22c%40sessionmgr114&hid=127&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ%3d%3d#d](http://web.ebscohost.com.simsrad.net.ocs.mq.edu.au/ehost/detail?vid=2&sid=8f9f83a4-0bb0-4794-8e08d5e225aa22c%40sessionmgr114&hid=127&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ%3d%3d#d)
[b=aph&AN=9509051059](http://web.ebscohost.com.simsrad.net.ocs.mq.edu.au/ehost/detail?vid=2&sid=8f9f83a4-0bb0-4794-8e08d5e225aa22c%40sessionmgr114&hid=127&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ%3d%3d#d)

Cooper, G., Kenny, J., & Fraser, S. (2012). Influencing Intended Teaching Practice: Exploring pre-service teachers' perceptions of science teaching resources, *International Journal of Science Education* 34(12) 1183-1908. doi:10.1080/09500693.2012.698762

Ducksters. (2013). Science experiment: Landfill and recycling. Retrieved 25th October, 2013 from http://www.ducksters.com/science/experiment_landfill.php

Grieshaber, S., & Diezmann, C. (2000). The challenge of teaching and learning science with young children. In N. Yelland (Ed.) Promoting meaningful learning: Innovations in educating early childhood professionals, (pp.87-93). National Council for the Education of Young Children. Washington, DC: NAEYC.

Hurtley, S. (2012). Recycle to Survive. *Science (New York)* 337(6102). 1584-1586. doi: 10.1126/science.337.6102.1584-b

Hyde, M., Carpenter, L., & Conway, R. (2011). Diversity and Inclusion in Australian Schools. Oxford: Sydney

Living Greener (2013). Worm farms. Retrieved 25th October, 2013 from <http://www.livinggreener.gov.au>

McLaughlin, C. (2009). reduce, reuse, recycling footprint. *Technology & Children*, 14(2), 16-17.

Nixon, M. (2001). Exploring the properties of recycled paper & cardboard. *Investigating: Australian Primary & Junior Science Journal*, 17(2), 21.

Rodale, Inc. (2013). How to build a compost pile. Retrieved 28th October, 2013 from <http://www.organicgardening.com/learn-and-grow/how-build-compost-pile>

Smith, J., Rechenberg, C., Cruey, L., Magness, S., & Sandman, P. (1997) The impact of recycling education on the knowledge, attitudes, and behaviors of grade school children. *Education* 118(2), 262-266. Retrieved 27th October 2013 from

<http://web.ebscohost.com.simsrad.net.ocs.mq.edu.au/ehost/pdfviewer/pdfviewer?sid=bda05fd-50ec-47d7-8643-48fa1d666c30%40sessionmgr113&vid=2&hid=127>