LC114 Communicating Technology

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Task 1: Brainstorming

Problems and solutions from your field of study

1. Find 2 real-life **needs/problems** that can be solved or alleviated using a particular solution from your own field of study.
   - The solution may be e.g. a method, device, technology, material, or strategy.
   - The problem can be a need to develop a new technology, or improve on an existing method or process.

2. Briefly describe a technical **solution** for both of the problems that you identified.

3. Identify a **potential client**, i.e. who would most probably implement this solution
   (what public/private institution, company or individual entrepreneur?).
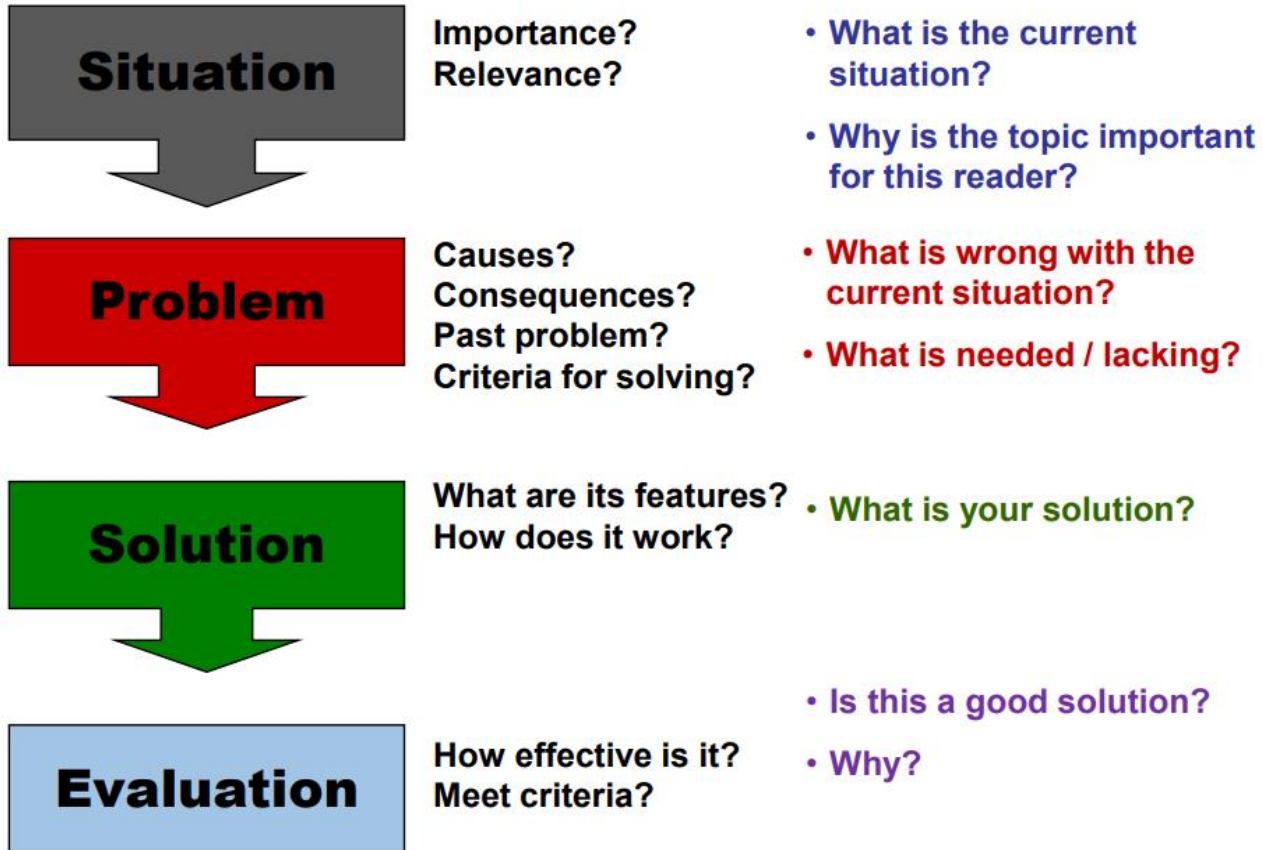
Situation

Importance, relevance
major, *important*, *popular*, *common*, and *many*

Problem

Causes, consequences, past solutions, …
contrast (*However, despite, although, but*),
negative (*limited, few, little, no, not, none*),
synonyms (*danger, drawback, disadvantage,
                          weakness, need, shortcoming,*
obstacle).

Solution

Features? How does it work?
nouns *solution, answer, approach, strategy,improvement*
verbs   *solve, address a problem, work out, develop*
causative connectors   *therefore, as a result, thus*

Evaluation

How effective? Meet the criteria?
nouns *benefit, advantage*
verbs   *provide, offer, enable, allow*
adjectives *effective, efficient, reliable, safe, useful*

Task 1 E-reader recommendation

1. Read the three versions of an introduction to a recommendation report. How do they differ? Which version do you prefer? Why?

2. Share your findings and opinions and justifications with the others. Do you agree?

Task 1 E-reader recommendation

Introduction A

[1]The threat of global warming **has** forc**ed** consumers to find 'green' alternatives to **many** of the **everyday** objects that we use. [2]One **important** object that is **widely** used for both entertainment and educational purposes is the book. [3]**However,** to feed our need for information and knowledge, the book and newspaper industries **require** the harvest of 125 million trees each year and emit over 40 million metric tons of CO_2 annually, equivalent to the annual CO_2 emissions of 7.3 million cars. [4]**Moreover,** considering the conversion into paper, printing and distribution of these printed media, one can easily understand why books have one of the highest per-unit carbon footprints. [5]These adverse environmental effects can be avoided by replacing printed media with

[5]These adverse environmental effects **can** be avoided by replacing printed media with digital forms. [6]Electronic books **can** be downloaded from the Internet, and then read using special devices, known as e-readers. [7]An e-reader **allows** readers to store many books at once, and is lighter and more portable than the traditional book. [8]E-readers are not only being used by the general public but also by specific groups of people for their own special purposes, and the available banks of digital texts are constantly growing. [9]These specific groups include college and high school students, mobile professionals, and people with vision problems. [10] Therefore, this report recommends adopting an e-reader for use by students and staff at the South Tapiola High School.

A?

Task 1 E-reader recommendation

Introduction B

[1]Books and other written media, such newspapers and magazines, **have become** an important part of our social and intellectual life in modern society. [2]Indeed, without written media, making informed choices and educating each successive generation would become difficult tasks. [3]**However,** producing these media **requires** the harvest of 125 million trees each year and emits over 40 million metric tons of CO_2 annually, equivalent to the annual CO_2 emissions of 7.3 million cars. [4]**Moreover**, it has been estimated that the special storage requirements for books can account for a further 5 million tons of CO_2 annually. [5]One **solution** to this problem is to replace printed media with digital forms that can be stored and read in 'e-readers'. [6]E-readers **allow** the reader

to store many books at once, and are lighter and more portable than traditional books. [7]E-readers **can** not only be used by the general public but also by other groups of people for their own specific purposes, including college and high school students, mobile professionals, and people with vision problems. [8]South Tapiola High School **has** receiv**ed** funding from government and private sources to sponsor a pilot project studying the suitability of using e-readers as an integral component of its educational strategy.

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A?

Task 1 E-reader recommendation

Introduction C

[1]**Today**, studying at the secondary level **requires** a growing number of books. [2]**This has** not only increas**ed** the **costs** of education but **requires** other means for transporting and storage of these media on school premises, such as school lockers and knapsacks. [3]E-readers **could** ease these problems by providing students with a single, portable, light-weight location for storing and reading their books, homework and assignments. [4]Unlike conventional textbooks, e-readers **allow** students to search through textbooks quickly for specific information, and many **allow** the student to highlight important text, to mark their last location in the book, and more importantly to determine the meaning of new vocabulary by right-clicking on a word for a definition or translation. [5]E-readers would also **provide** a central location for storage of all the student's textbooks and assignments. [6]To determine the effectiveness of e-readers in educational settings, the South Tapiola High School **has** decid**ed** to conduct a feasibility study before making any decision to invest in e-readers. [7]This report compares the benefits and drawbacks of implementing this new technology in Finnish secondary schools.

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A?

Task 2 Identify the 4 moves

Read the following text on automated identification of potential avalanche release.

Identify the 4 moves on the problem solution pattern:

Situation

Problem

Solution

Evaluation

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Task 2 Identify the 4 moves

1 **Avalanche release zone information such as location, extent and release height are essential for avalanche mitigation measure planning.** 2 However, the identification of release areas is a very difficult task as the release [of] snow avalanches depends on many different [meteorological, snowpack and triggering parameters and their interactions. 3 Furthermore, nearly no information on avalanche release areas exists in many alpine regions, such as the Indian Himalaya, mainly due to the very rough and poorly accessible terrain, the vast size of the region and the lack of avalanche records. 4 Thus, avalanche release information is

Situation

Task 2 Identify the 4 moves

mitigation measure planning. **2 However, the identification of release areas is a very difficult task as the release mechanism of snow avalanches depends on many different terrain, meteorological, snowpack and triggering parameters and their interactions. 3 Furthermore, nearly no information on avalanche release areas exists in many alpine regions, such as the Indian Himalaya, mainly due to the very rough and poorly accessible terrain, the vast size of the region and the lack of avalanche records. 4 Thus, avalanche release information is urgently required for numerical simulation of avalanche events to plan mitigation measures, for hazard mapping and to secure important roads, such as the Rohtang tunnel access road near Manali, India.** 5 By far the most reliable way to

Problem

Task 2 Identify the 4 moves

5 By far the most reliable way to identify avalanche release areas is using historic avalanche records and field investigations accomplished by avalanche experts in the formation zones. 6 However, neither of these methods is feasible for this area due to the rough terrain, its vast extent and lack of time.

Solution

Task 2 Identify the 4 moves

6 **However, neither of these methods is feasible for this area due to the rough terrain, its vast extent and lack of time.** 7 Therefore, we have developed an operational, easy-to-use automated potential release area (PRA) detection tool in Python/ArcGIS.

Negative Evaluation

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Task 2 Identify the 4 moves

its vast extent and lack of time. 7 Therefore, we have developed an operational, easy-to-use automated potential release area (PRA) detection tool in Python/ArcGIS. 8 It uses high spatial resolution digital elevation models (DEMs) and forest cover information derived from airborne remote sensing instruments as input. 9 Such instruments can acquire spatially continuous data even over inaccessible terrain and covering areas.

Solution

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Task 2 Identify the 4 moves

instruments as input. 9 Such instruments can acquire spatially continuous data even over inaccessible terrain and cover large areas. 10 The tool was validated using a database of historic avalanches acquired over 56 years in Davos, Switzerland, and applied to identify the avalanche tracks along the Rohtang tunnel access road. 11 This tool, used by avalanche experts, delivers valuable input to identify focus areas for more detailed investigations on avalanche release areas in remote regions, such as the Indian Himalaya. In addition, it is a precondition for large-scale avalanche hazard mapping

Positive Evaluation

The recommendation report

Introduction
Max 200 words

GENERAL CONTEXT, THE NEED, SOLUTION, evaluation
Pattern: problem-solution

Topic, focus and purpose of text

Body

300- words

DESCRIPTION OF *SOLUTION*
Pattern: extended definition

Sentence definition + 3-4 key features/defining characteristics

Conclusion

50 words

RECOMMENDATION (restated?) and
summary of key ideas/arguments

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What is plagiarism?   /pleɪdʒərɪz(ə)m/

"Plagiarism is the copying or paraphrasing of other people's work or ideas without full acknowledgement."

(http://www.ox.ac.uk/students/academic/guidance/skills)

"The practice of taking someone else's work or ideas and passing them off as one's own."

(http://www.oxforddictionaries.com)

Synonyms:

appropriation, infringement, piracy, counterfeiting; theft, borrowing….

Avoid plagiarism...but how?

Use your own words:

ORIGINAL
With an understanding of the conceptualization and methods of application, QOL (Quality of Life) can be an important concept for occupational therapists to use in outcome measurement.

If you **QUOTE**, do it sparingly, word-for-word and in quotation marks!

SUMMARY
Quality of Life can be an important concept and outcome measure for occupational therapists (Liddle & McKenna, 2000)

PARAPHRASE
Quality of Life has been described as an important outcome measure for occupational therapists, provided it is adequately conceptualized and the methods of applying it are understood (Liddle & McKenna, 2000)

...AND ACKNOWLEDGE THE SOURCE!

A?

You need to incorpore sources in your academic work AND your course assignments in order to ...

- show that your work is based on background research
- to enable your readers/listeners to find the sources
- give credit to those it belongs to

Whose voice?

Avoid plagiarism...but how?

Acknowledge your sources

Stanley Meyer's water fuel cell

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Description

The water fuel cell purportedly split water into its component elements, hydrogen and oxygen. The hydrogen gas was then burned to generate energy, a process that reconstituted the water molecules. According to Meyer, the device required less energy to perform electrolysis than the minimum energy requirement predicted or measured by conventional science.[1] The mechanism of action was alleged to involve "Brown's gas", a mixture of oxyhydrogen with a ratio of 2:1, the same composition as liquid water; which would then be mixed with ambient air (nitrogen, oxygen, carbon dioxide, carbon monoxide, methane, chlorofluorocarbons, free radicals/electrons, radiation, among others).[3] If the device worked as specified, it would violate both the first and second laws of thermodynamics,[1][3] allowing operation as a perpetual motion machine.[3]

1 Dean Narciso (July 8, 2007). "The Car that Ran on Water". The Columbus Dispatch. Archived from the original on 14 February 2008. Retrieved 24 March 2008.

Stanley Meyer's water fuel cell. *Wikipedia: The Free Encyclopedia,* Wikimedia Foundation Inc., viewed 9 September 2019, https://en.wikipedia.org/wiki/Stanley_Meyer%27s_water_fuel_cell

A?

Avoid plagiarism...but how?
Acknowledge your sources in 2 places

1) **Refer to your sources within the text**
   - As reported by Sims et al. (2010),…
   - Sims (2) suggests that …

   - The novel solution was also criticised...(Bass, 2004).
   - The software was originally designed to support….[1]. / (1) / [1]
   - Several methods have been suggested for…[1], [2], [3]

Author prominent

Information prominent

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Avoid plagiarism...but how?

Acknowledge your sources in 2 places

2) ...and in the list of references

Sims, R.E.H., Mabee, W., Saddler, J.N., Taylor, M., 2010. An overview of second generation biofuel technologies. Bioresour. Technol. 101, 1570–1580.

[1] S. Bass. Home office: upgrade or buy new? Part 1. PC World. 8 September 2004. [Online] Available from: http://www.pcworld.com/article/id,117490-age,1c,upgrading/article.html [Accessed 20 January 2005].

Task 3 Where would you expect to see in-text citations?

1 The production of biomass feedstocks and its conversion to bioenergy have numerous socioeconomic and environmental impacts. **2** Although the first generation biofuels have been commercialized worldwide with mature technologies and markets, its sustainability has been questioned based on the competition with food crops and the effects on the environment and climate change. **3** Biofuel use represents an increasingly important share of global cereal, sugar and vegetable oil production. **4** By 2020, bioethanol share will increase to 13% of annual global corn production compared to 11% on the average over the 2008–2010 period, and 35% of global sugarcane production compared to 21% over the baseline period of 2008–2010. **5** The share of vegetable oil to be used for biodiesel production at the global level is expected to reach 16% compared to 9% over the baseline period of 2008–2010. **6** The outlook of OECD-FAO certainly raises concerns about the impact of biofuel on food prices and food supply. **7** A study of Fischer et al. predicted that biofuel expansion may further increase the price of agricultural commodities by 8–34% (cereals), 9–27% (other crops), and 1–6% (livestock) by 2020.

Task 3 Where would you expect to see in-text citations?

1 The production of biomass feedstocks and its conversion to bioenergy have numerous socio-economic and environmental impacts. **2** Although the first generation biofuels have been commercialized worldwide with mature technologies and markets, its sustainability has been questioned based on the competition with food crops and the effects on the environment and climate change **(Gasparatos et al., 2013). 3** Biofuel use represents an increasingly important share of global cereal, sugar and vegetable oil production. **4** By 2020, bioethanol share will increase to 13% of annual global corn production compared to 11% on the average over the 2008–2010 period, and 35% of global sugarcane production compared to 21% over the baseline period of 2008–2010 **(OECD-FAO, 2011). 5** The share of vegetable oil to be used for biodiesel production at the global level is expected to reach 16% compared to 9% over the baseline period of 2008–2010 **(OECD-FAO, 2011**). **6 The outlook of OECD-FAO certainly raises concerns about the impact of biofuel on food prices and food supply. 7** A study of Fischer et al. **(2009)** predicted that biofuel expansion may further increase the price of agricultural commodities by 8–34% (cereals), 9–27% (other crops), and 1–6% (livestock) by 2020.

Ho, D.P., Ngo, H.H., Guo W. A mini review of renewable sources for biofuel. Bioresour Technol. 2014 Oct;169:742-749.

A?

HOMEWORK

1. Virtual Collaboration Task 1: Personal video

(1) Find a place (can be your favourite place) to record the video

(2) Introduce yourself. Something about you.

(3) Post the link to the video with your name on Google doc.

(4) Do you have a CV? If not, try to write one and share.

2. Virtual Collaboration Task 2: Word Association

What words do you think of associated with France or Finland?

Questions?