

Assessment in Inquiry-based Learning (IBL)

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Objectives

1. To be aware of the current trends of classroom-based assessment.
2. To acquire knowledge and strategies in assessing inquiry-based learning (IBL) process involving planning, executing and criteria.
3. To apply appropriate methods and tools (e.g. rubrics, checklist, rated scale, worksheet, etc.) in assessing various forms of science learning through inquiry-based learning (IBL).
4. To examine how scoring rubrics can be adapted to promote science teaching, learning and assessment through IBL.
5. To understand the concepts of assessment for/as/of learning.
6. To construct rubrics, checklist, rated scale and worksheet, etc. to assess primary science learning through IBL

Current Trends, Issues, Concerns and Challenges in Science Education: *Paradigm Shift in Science Teaching and Learning*

The year 2000
and above

Traditional Views

Current Perspective

Teaching strategies

Limited strategies

- transmission
- prescribed/step-by-step practical activities
- deductive

Repertoire of strategies

- Scientific investigations or **Inquiry-based learning** (exploratory/open-ended)
- **Problem-based Learning**
- inductive

So the implications to assessment are.....

current trends
and issues in
teaching, learning,
assessment

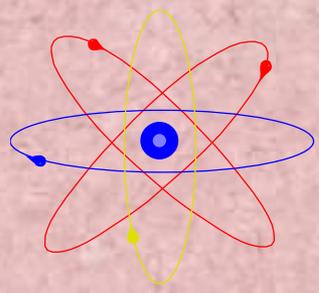
Assessment Reforms

Project

Games and simulation

Portfolio

Self reports



Problem analysis

Poster

Research analysis

Problem-based learning

Concept mapping

Practical laboratory test

Practical laboratory test

Field study / experiment

Practical skills
Practical skills

... multifaceted and diverse...with timeline before, during and after project work...



Assessment Timeline

Before project work begins

Students work on projects and complete tasks

After project work is completed

* Questioning

* Journals

* Project Plan

* K-W-L Chart

* **Written Summaries**

* **Observation Checklist**

* **Journals**

* Questioning

* Group and Self- Assessment

* Newspaper Rubric

* Conferences

* Newspaper Rubric

* K-W-L Chart

* Mock Trial

* Reflective Essay

K-W-L Creator

by: Miss Espinos

Topic: Sustainability

What I **K**now

we need to look after the environment
we should try to use less water
we should try to save energy
everyone needs to look after the environment

What I **W**ant to learn

what is erosion?
how can we save water?
how can we save electricity?
Why does everyone need to protect the environment?

What I **L**earned

(This heading would not have been completed in the first week)

Activity 1: Identifying prior knowledge and what to be learned

PENGUINS



Assessment in IBL

What we
KNOW

Antarctica
cold
ice
water
birds
black
white
feathers
walk
swim



What we
WONDER

How do they
stay warm
in the cold
water
How do they
find food

What we
LEARNED

They have
special
feathers
to keep
them warm
They have
special
beaks
to catch
fish



Inquiry-based Learning

http://www.learnalberta.ca/content/kes/pdf/or_ws_tea_inst_02_inqbased.pdf

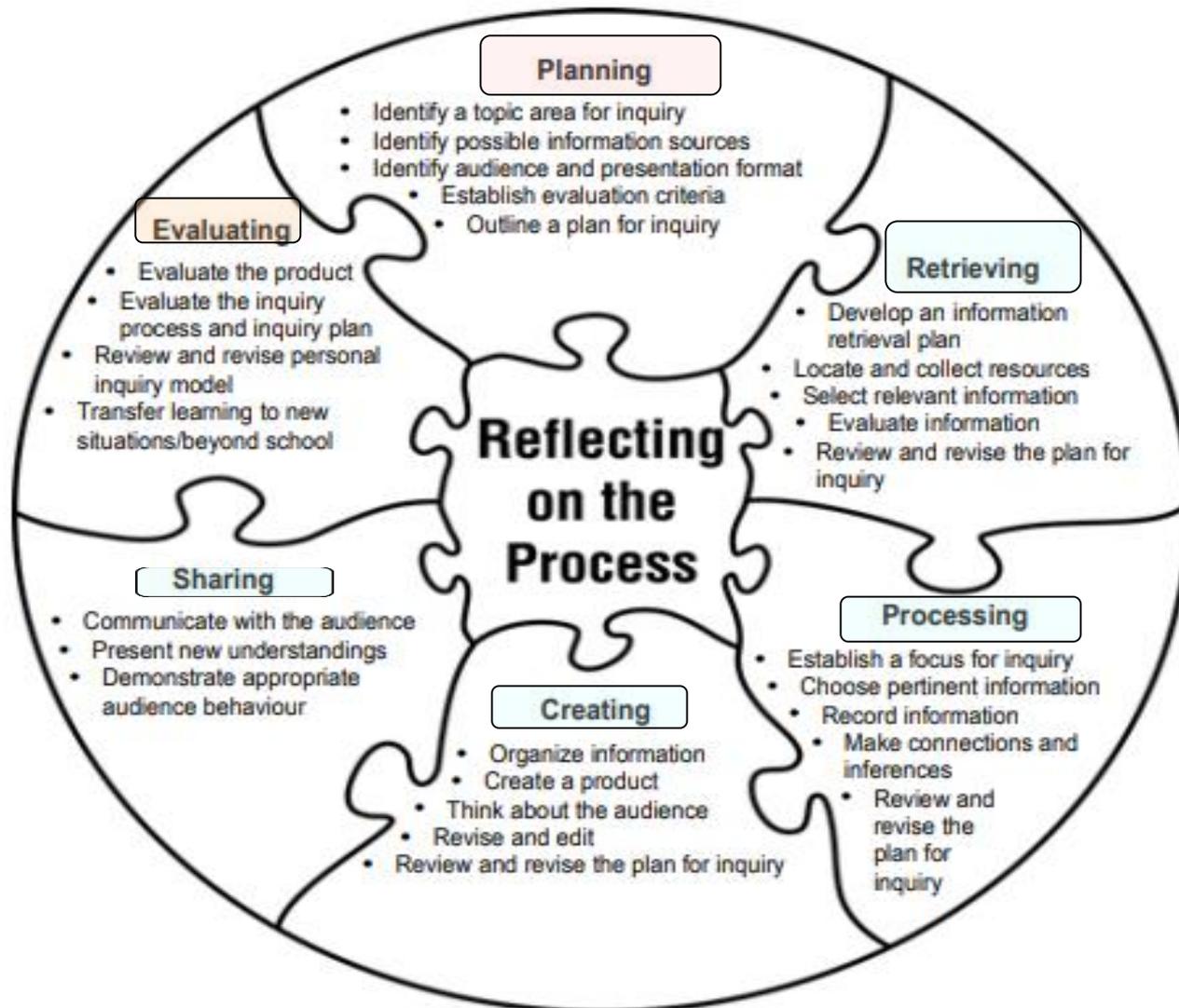
(This section is condensed and adapted from Alberta Learning, *Focus on Inquiry: A Teacher's Guide to Implementing Inquiry-based Learning* [Edmonton, AB: Alberta Learning, 2004]).

Benefits of Inquiry-based Learning

Research suggests that using inquiry-based learning with students can help them become more creative, more positive and more independent.¹ Inquiry-based learning provides opportunities for students to:

- develop skills they will need all their lives
- learn to cope with problems that may not have clear solutions
- deal with changes and challenges to understandings
- shape their search for solutions, now and in the future.

Using an inquiry model helps students to internalize a process for inquiry that is transferable to everyday life situations. The model presented here uses a puzzle metaphor to help students relate inquiry-based learning to their lives outside school.



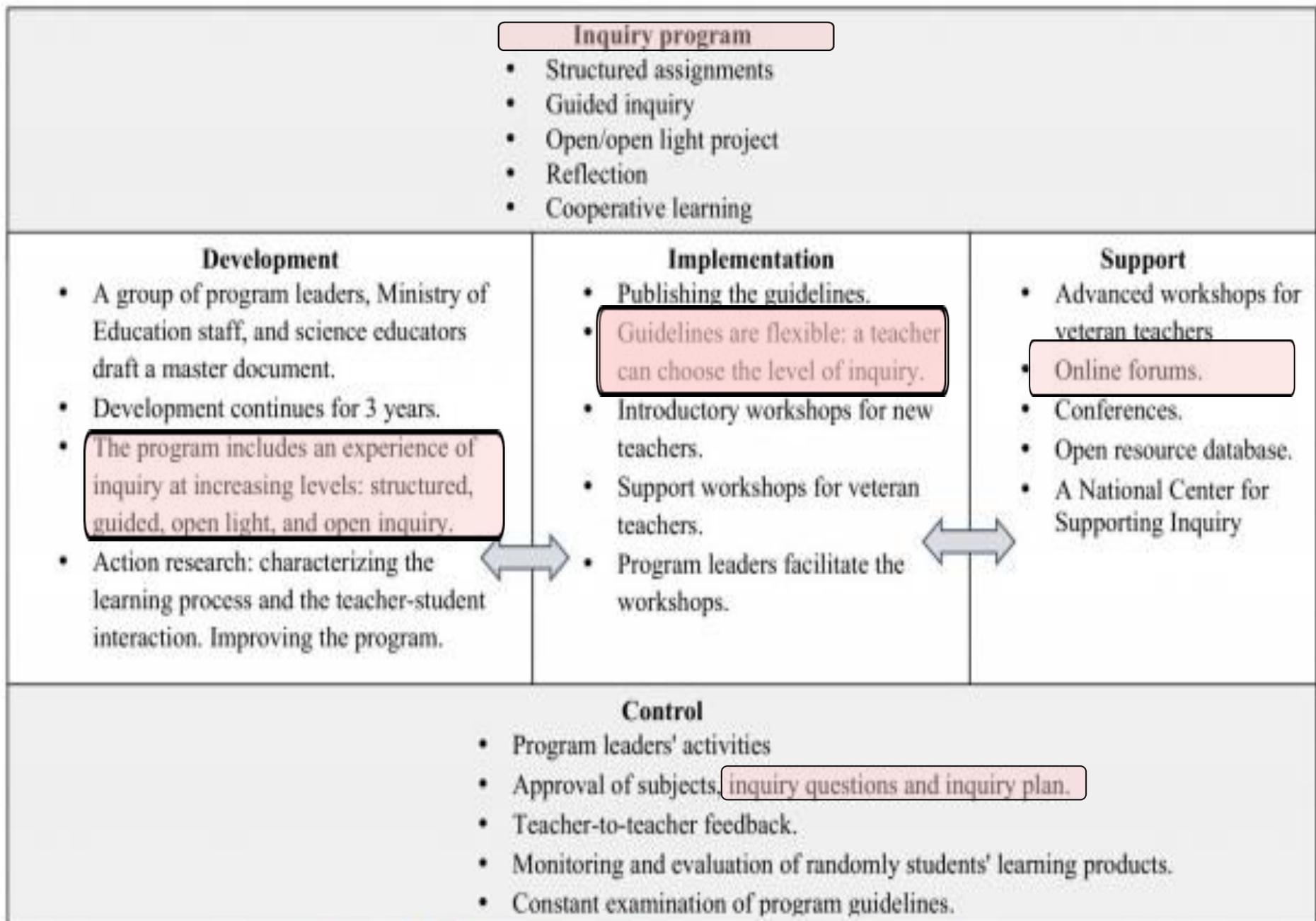


Figure 1. A model for implementing inquiry teaching

Inquiry continuum

	Teacher directed		Student directed
			
	Confirmation/ Structured	Guided	Open
Question formation	Teacher poses topic, teacher poses question	Teacher poses topic, teacher poses main questions, students pose sub-questions	Students pose topic, students pose question
Evidence	Teacher provides data & information	Teacher provides data, students collect information	Students collect data, students collect information
Findings/ argument	Teacher provides explanation/argument	Teacher guides students in forming explanation/argument	Students formulate explanation/argument
Communication	Teacher provides steps for communicating findings	Teacher guides students in communicating findings/argument	Students choose mode and approach to communicating findings/argument

4 PHASES OF INQUIRY-BASED LEARNING:

INTERACTION

Dive into engaging, relevant, & credible media forms to identify a "need" or opportunity for inquiry

1.



Tone: Open-minded, curious, unburdened, playful

CLARIFICATION

Summarizing and categorizing data & understanding with teacher or expert support

2.



Tone: Slightly more focused, reflective, independent, cautious

QUESTIONING

Asking relevant questions to drive continued, self-directed inquiry

3.



Tone: Creative, confident, interdependent

DESIGN

Designing an accessible, relevant, & curiosity driven action or product to justify inquiry.

4.



Tone: Creative, restrained, calculating

A Guide For Teachers

teachthought
WE GROW TEACHERS

teachthought
WE GROW TEACHERS

<https://www.teachthought.com/pedagogy/4-phases-inquiry-based-learning-guide-teachers/>

4 Phases Of Inquiry-Based Learning: A Guide For Teachers

Conversations

Conferences

Notes

Journal

Blogs

Moderated Wikis

Moderated Online forums

Student feedback

Focused conversations

Portfolio Conferencing

Running Record

List of Books Read

Vocabulary Checklists

Notes from Literature Circle

Observation Checklist

Processfolio

Anecdotal observation

Questioning

Presentations

Listening

Speaking

Problem Solving

Group Skills

Performance Tasks

Assignments

Test Scores

Reader Responses

Tests

Portfolios

Checklists

Videos

Journals

Projects

Graphs

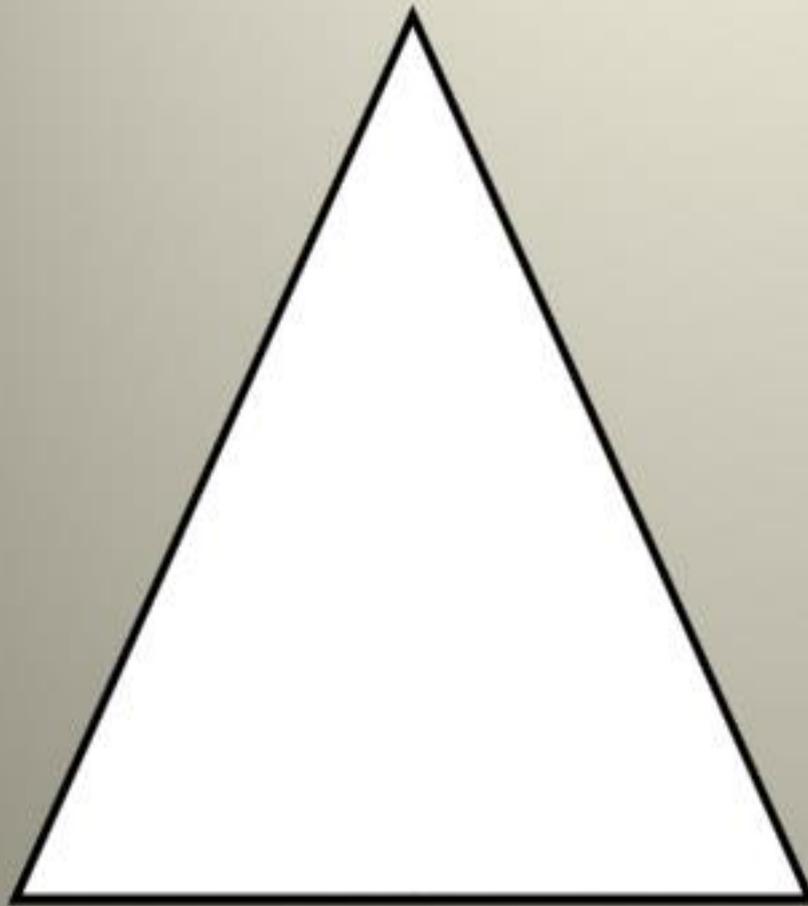
Tests

Observations

Products

How can we gather triangulated evidence of learning ??

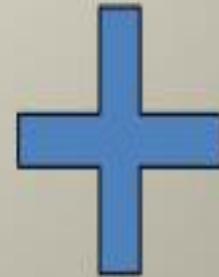
Conversations



Observations

Products

Content Standards



Performance Standards
(Achievement Chart)

Roundtable activities: Write a brief summary in the following discussion areas

Type of assessment	Definition/description/ main concepts	Effectiveness/strengths in assessing students' work in primary science	If effective or not, why or why not? How to improve if not effective?
Alternative assessment	Assessment form other than examination e.g. scientific journal, portfolio, project, etc.		
Formative assessment	Ongoing assessment in class within certain stipulated timeframe e.g. school-based assessment		
Summative assessment	Assessment/evaluation at the end of the learning period, e.g. mid-term, final term, government and public exam		

Type of assessment	Definition/description/main concepts	Effectiveness/strengths in assessing students' work in primary science	If effective or not, why or why not? How to improve if not effective?
Alternative assessment	Assessment form other than examination e.g. scientific journal, portfolio, project, etc.	<ul style="list-style-type: none"> *Not too exam oriented * Can be evaluated through criterion-reference test using rubric * Students feel less threatening 	<ul style="list-style-type: none"> *It is effective because most students can be encouraged to participate if it is done in less threatening way *Tendency of students getting mark without really performing with help by others
Formative assessment	Ongoing assessment in class within certain stipulated timeframe e.g. school-based assessment	<ul style="list-style-type: none"> *Good for getting feedback for teachers to reflect on own teaching and to monitor students' progress of learning *May use different mode, e.g. observation, quiz, interview, short survey, interactive Q&A, etc. 	<ul style="list-style-type: none"> *Effective to get feedback for teachers to reflect on own teaching and to monitor students' progress of learning through criterion-reference test *Time constraints to do it frequently, a lot of preparation and the need to monitor big size classroom but good for monitoring students' progress ongoingly
Summative assessment	Assessment/evaluation at the end of the learning period, e.g. mid-term, final term, government and public exam	<ul style="list-style-type: none"> *Able to check overall academic performance of students *Good for checking and reporting 	<ul style="list-style-type: none"> *Can monitor students' progress using norm-reference test *May be too rigid or objective *It is unfair to evaluate students only once or twice during unforeseen circumstances when students faced problems such as sickness, accidents, etc.

Introduction to (1) Assessment Rubric and Subsequent Group Activities

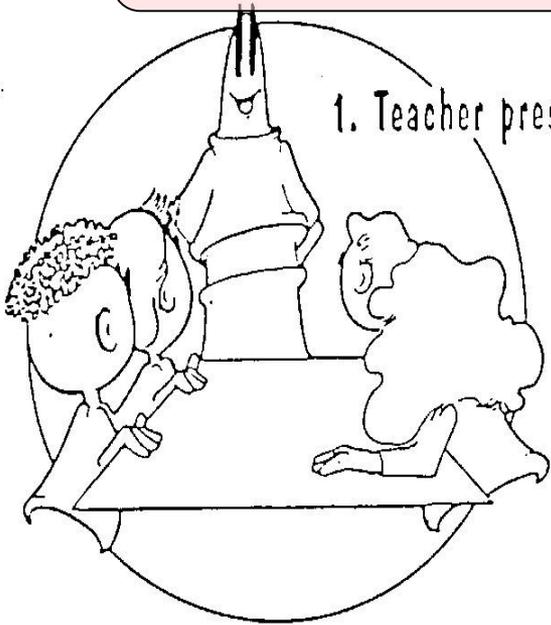
(output to be discussed during next four sessions final week of course):

In the subsequent slides, you will be introduced to various forms of rubrics. You are requested to do the following:

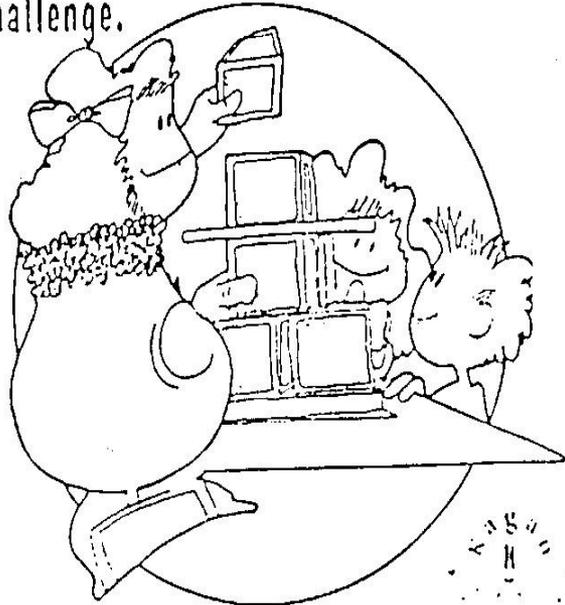
- (1) Form three teams to focus on any one of the topics suggested or you can choose your own topic.
- (2) Select relevant pedagogy (that will be introduced by numerous lecturers in the subsequent weeks, e.g. project-based activities, PBL, digital tools and web resources, etc)
 - (a) prepare learning output/product requested by facilitator(s) as requested during the respective sessions.
 - (b) draft an assessment rubric (referring the samples given or from web resources) to evaluate these learning output.
- (3) Discuss in groups through blended-mode activities during the last four sessions by the last week of the course.

Team Challenge

1. Teacher presents a challenge.



2. Teams meet the challenge.



Team Project



Examples of projects/programmes to be assessed using **rubrics** related to topics:

(1) Water-based education or Telecare and Healthy Lifestyle (TeleHeal) or

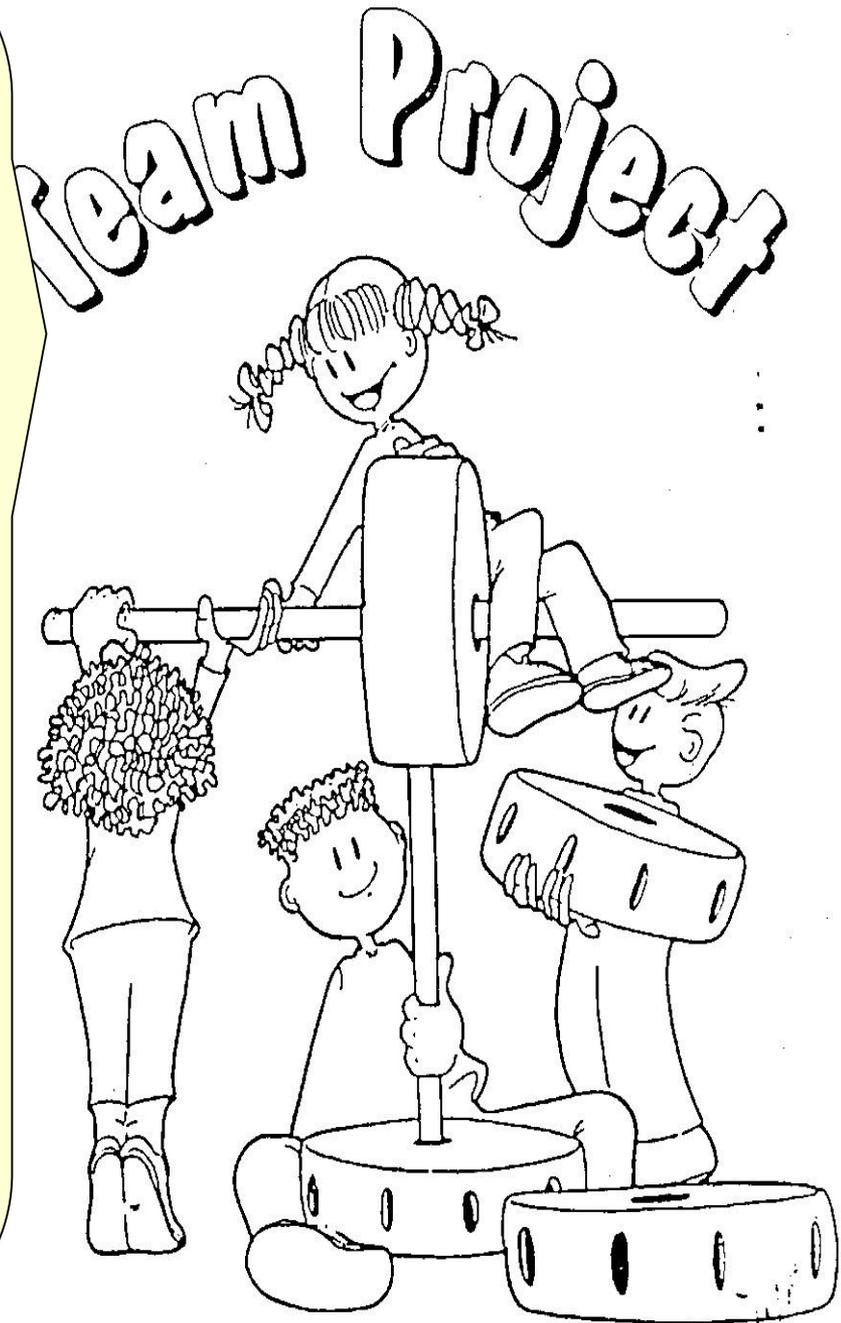
URL:

(2) Recycling or Conservation and Wise Use of Resources (ConWUR) or

URL:

(3) Energy related education to promote Sustainable Energy for All (SE4ALL)

URL:



Examples of projects/programmes to be assessed using **worksheet** related to topics:

(1) Water-based education or Telecare and Healthy Lifestyle (**TeleHeal**) or

URLs:

<http://www.jumpstart.com/common/body-parts>

<http://www.jumpstart.com/common/liver-function>

(2) Recycling or Conservation and Wise Use of Resources (**ConWUR**) or

URL:

<http://www.jumpstart.com/common/plant-a-tree>

(3) Climate related education to promote Climate Awareness and Disaster Risk Reduction EDucation (**CADRRED**)

URL:

<http://www.jumpstart.com/common/biosphere-mix-up-view>

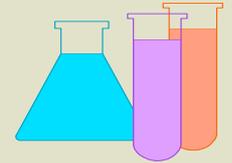




Science project as alternative assessment: types, areas and category of assessment in SSYS

(A) Project exhibited in display area (30%) following headings:

1. Use of **scientific principles** and **approaches**
2. Scientific **creativity, innovation & originality/ingenuity**
3. Impact on the **quality** of **environment** or **society**
4. **Contribution** to meeting **human needs** and the *sustainable development* of **society**
5. Use of **ICT** knowledge OR **technical/graphical skills**
6. **Presentation** of project and **Interactive** ability



'Windows on Australia' Inquiry Assessment Rubric

Name: _____

Followed appropriate inquiry process	No evidence is available showing that I followed the correct inquiry process 0	Little evidence is available showing that I followed the correct inquiry process. 5	Some evidence is available showing that I followed most of the correct inquiry process 15	Evidence is available showing that I followed the correct inquiry process. This includes a 'fat question', note-taking on a graphic organiser, drafting information into paragraphs, storyboarding and presenting my information. 30
Quality of research (what I found out)	Little information given / is difficult to understand 5	Some information given 10	Good information that answers most of the fat question 20	Excellent information that answers the fat question fully and in a logical order 30
Quality of presentation (how well I shared what I found out)	Oral presentation not presented clearly	Some of oral presentation articulated clearly	Oral presentation mostly articulated clearly	Oral presentation articulated clearly in my own words, with correct posture, clear speaking (not reading) and good volume
	Visual work not presented clearly	Some of visual work presented clearly	Visual work mostly presented clearly	Visual presentation gives information in my own words, is neat, legible, attractive with correct spelling
	Multimedia work not presented clearly 0	Some of multimedia work presented clearly 5	Multimedia work mostly presented clearly 15	Multimedia presentation given in my own words, easy to view with clear information, correct spelling and attractive layout 20
How I used 'extras' to make my presentation richer	Sequence and layout used poorly / hasn't added to the quality of the presentation 0	Sequence and layout needs improvement in some areas 5	Sequence and layout mostly used well 10	Sequence and layout (headings / sub headings / diagrams / props / pictures / labels / extras) add to the quality of the presentation 15
Resources I used	No bibliography presented 0	Bibliography shows few sources used 1	Bibliography shows some sources have been used 3	Bibliography shows that information comes from a variety of sources 5

E/F under 50	D 50-60	C 61-70	B 71-80	A 81-90	A+ 91-100	Total:	100
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P R E S E N T A T I O N R U B R I C f o r P B L

Project-based learning

Names:

Body System:

	Below Standard	Approaching Standard	At Standard	Above Standard II	Comments
Explanation of Ideas & Information	<ul style="list-style-type: none"> • does not present information, ideas, or findings clearly, concisely, and logically; argument lacks supporting evidence; audience cannot follow the line of reasoning • selects information, develops ideas and uses a style inappropriate to the purpose, task, and audience (may be too much or too little information, or the wrong approach) 	<ul style="list-style-type: none"> • presents information, findings with supporting evidence in a way that is not always clear, concise, and logical; line of reasoning is sometimes hard to follow • attempts to select information, develop ideas and use a style appropriate to the purpose, task, and audience but does not fully succeed 	<ul style="list-style-type: none"> • presents information, findings with supporting evidence that is clear, concise, and logical; audience can easily follow the line of reasoning • selects information, develops ideas and uses a style appropriate to the purpose, task, and audience 		
Organization	<ul style="list-style-type: none"> • does not meet requirements for what should be included in the presentation • does not have an introduction and/or conclusion • uses time poorly; the whole presentation, or a part of it, is too short or too long 	<ul style="list-style-type: none"> • meets most requirements for what should be included in the presentation • has an introduction and conclusion, but they are not clear or interesting • generally times presentation well, but may spend too much or too little time on a topic, a/v aid, or idea 	<ul style="list-style-type: none"> • meets all requirements for what should be included in the presentation • has a clear and interesting introduction and conclusion • organizes time well; no part of the presentation is too short or too long 		
Eyes & Body	<ul style="list-style-type: none"> • does not look at audience; reads notes or slides • does not use gestures or movements • lacks poise and confidence (fidgets, slouches, appears nervous) • wears clothing inappropriate for the occasion 	<ul style="list-style-type: none"> • makes infrequent eye contact; reads notes or slides most of the time • uses a few gestures or movements but they do not look natural • shows some poise and confidence, (only a little fidgeting or nervous movement) • makes some attempt to wear clothing appropriate for the occasion 	<ul style="list-style-type: none"> • keeps eye contact with audience most of the time; only glances at notes or slides • uses natural gestures and movements • looks poised and confident • wears clothing appropriate for the occasion 		

Sample Rubric to refer under PBL sub-theme Values-based Sustainable Education (VaBSE) n SDGs

	Emerging 1	Developing 2	Mastery 3	Points
Integration and balances of three pillars of sustainability – environment, society, economy	Plan addresses one pillar of sustainability	Plan addresses, integrates and balances* Two pillars of sustainability	Plan addresses, integrates and balances* Three pillars of sustainability	
Intergenerational equity	Lesson plan focuses on the current problem	Lesson plan addresses long-term effect if current behaviour or activities are continued	Lesson plan addresses long term effect if current behaviour or activities are continued and solution to tackle it.	
Effect	Did not ask the student to consider individual effect of personal and community decisions	Ask the student to consider individual effect of personal or community decisions	Ask the student to consider individual effect of personal and community decisions	
Raising awareness, education and training	Lesson plan does not address awareness, education or training	Lesson plan includes awareness, education or training	Lesson plan includes awareness, education or training from beginning and their evaluation	
Identify and define the sustainability issue	Problem or issue is not well defined. It addresses only one of three spheres of sustainability (i.e environment, society and economy)	Problem or issue is adequately defined. It addresses two or three spheres of sustainability	Problem or issue is well defined with environmental, social and economic impacts and ramifications explained	
Goal of the plan (What you want to achieve? How do you know if you achieved it?)	No goal stated or improvement in condition inferred	Goal stated but no indicators included	Goal stated as well as indicators or metrics for monitoring progress	
Briefly describe you lesson plan	Description has gaps. Sequence is missing	Description conveys major activities and sequence	Description conveys the major activities and sequence with enough detail so that it is easy to envision the plan	
List of interventions	List is incomplete and does not tie directly to description of implementation plan	List is complete and ties to description of implementation plan	List is complete and adds clarity to description of implementation plan. Major activities are bulleted with a rough timeline	
Describe interconnectedness of plan	Lesson plan describe the problem or issue in isolation	Lesson plan describe problem in connection to another problem or issue	Lesson plan describe and illustrates the issue connected to two or more other problems or issues	
Teaching pedagogy	Did not involve the inquiry open ended and student centred learning	Only involve the inquiry open ended	Involve the inquiry open ended and student centred learning	
Total				

Assessment

- Challenge based assessment rubric (page 25)
- Project based learning rubric (Microsoft Office)
- Project based learning rubrics (BIE)
- Conduct a Rubistar rubric search
- Using digital storytelling as an assessment

Components

- Common elements of authentic learning. (Lombardi)
- Getting a grip on project-based learning (Grant)
- Evaluating project-based learning (Hernandez)

How to begin

- PBL-Online

http://rubistar.4teachers.org/index.php?screen=CustomizeTemplate&bank_rubric_id=4§ion_id=1&



Create Rubrics for your Project-Based Learning Activities

Warning:

This page will expire in 40 minutes.

If you do not click the Submit button within 40 minutes, the system will not be able to keep your data. If you feel that you require more time, please go ahead and Submit part of your data. Then you can choose to save your rubric online and you may return to this page in the editing mode to continue working on it.

Rubric Description

Here is a list of the people who contributed to the creation of this rubric template. [hide/show](#)

Rubric Information

Your Name:

Salutation:

None ▼

First Name:

Last Name:

Rubric Project Name:

Oral Presentation Rubric ::

	Beginning	Developing	Exemplary
Big Idea	Demonstrates significance.	Demonstrates global significance and includes local impact.	Demonstrates global and local significance. Is meaningful to the participants and their community.
Essential Question	Multiple questions.	Identifies what is important to know about the big idea. Refines and contextualizes that idea.	Identifies what is important to know about the big idea. Refines and contextualizes that idea. Clear, concise, and answerable question.
The Challenge	A natural extension of the essential question. Phrased as a "real-world" challenge.	A natural extension of the essential question. Phrased as a "real-world" challenge. Can lead to an implementable and measurable solution.	A natural extension of the essential question. Phrased as a "real-world" challenge. Can lead to an implementable and measurable solution. Presented in a clear and compelling short video.
Guiding Questions	Narrow set of questions.	Extensive set representing what is needed to learn in order to identify a solution to the challenge.	Extensive set representing what is needed to learn to identify a solution to the challenge. Aligned with state and national standards.
Guiding Activities	A range of activities primarily within the classroom.	A wide range of activities both inside and outside of class that help to answer the guiding questions. Sets the foundation for an innovative, insightful, and realistic solution.	A wide range of activities both inside and outside of the class that help to answer the guiding questions. Sets the foundation for an innovative, insightful, and realistic solution. Aligned with state and national standards.
Guiding Resources	Sources are reliable and accurate.	Sources are reliable and accurate. Represent a wide variety of perspectives.	Sources are reliable and accurate. Represent a wide variety of perspectives. Include interaction with local, national, and/or international experts.
Solution	Solution shows evidence of careful research and deliberation.	Solution shows evidence of careful research and deliberation. Can be implemented by the students in their community.	Solution shows evidence of careful research and deliberation. Can be implemented by the students in their community. Involves partnerships with groups outside of the school.
Implementation	Solution is implemented with a specific audience for a specified amount of time.	Follows a detailed implementation and evaluation plan. Solution is implemented with a specific audience for a specified amount of time with some data collection.	Follows a detailed implementation and evaluation plan. Solution is implemented with a specific audience for a specified amount of time and includes extensive data collection.
Evaluation	Conclusions are drawn using the data generated from the implementation.	Conclusions are drawn using the data generated from the implementation. Findings are presented in a clear and compelling manner in a written report.	Conclusions are drawn using the data generated from the implementation. Findings are presented in a clear and compelling manner in a written report and a short video.
Reflection	Clear and concise perspectives on what was learned about the topic, specific content, and process presented in classroom discussions.	Clear and concise perspectives on what was learned about the topic, specific content, and process presented in written journals.	Clear and concise perspectives on what was learned about the topic, specific content, and process presented in written and video journals.

Sample Rubric to refer under sub-theme health care

Task Description

Term Paper: Ethical Nursing Care

The student will integrate 2 perspectives regarding ethical nursing care. Description: Based on your clinical experience, you are to write a five-page paper concerning two ethical issues that you have encountered. The paper MUST be written from a NURSING perspective. Describe the issues including the pros and cons of the issue at hand. Refer to the following rubric for grading guidelines.

Levels & Scoring Scale

Criteria

	Poor 5 pts	Below Average 10 pts	Average 15 pts	Exceptional 20 pts
Content & Development Describe your issues. Make sense of what you are trying to discuss.	<ul style="list-style-type: none"> - Content is incomplete. - Major points are not clear and /or missing. - Questions were not adequately answered. 	<ul style="list-style-type: none"> - Content is not comprehensive - Major points are addressed, but not well supported. - Responses are inadequate or do not address assignment. - Content is inconsistent with regard to purpose and clarity of thought. 	<ul style="list-style-type: none"> - Content is accurate. - Major points are stated. - Responses are adequate and address assignment. - Content and purpose of the writing are clear. 	<ul style="list-style-type: none"> - Content is comprehensive, accurate, and persuasive. - Major points are stated clearly and are well supported. - Responses are excellent, timely and address assignment including course concepts.
Organization & Structure Keep the paper flowing. Keep focused but stay on topic.	<ul style="list-style-type: none"> - Organization and structure detract from the message. - Paragraphs are disjointed and lack transition of thoughts. 	<ul style="list-style-type: none"> - Structure of the paper is not easy to follow. Paragraph transitions need improvement. - Conclusion is missing, or if provided, does not flow from the body of the paper. 	<ul style="list-style-type: none"> - Structure is mostly clear and easy to follow. - Paragraph transitions are present. - Conclusion is logical. 	<ul style="list-style-type: none"> -Structure of the paper is clear and easy to follow. - Paragraph transitions are logical and maintain the flow of thought throughout the paper. - Conclusion is logical and flows from the body of the paper.
APA Format Follow guidelines given in class and from your APA 6th edition.	<ul style="list-style-type: none"> - Paper lacks many elements of correct formatting. - Paper is inadequate/excessive in length. -Paper is not double spaced 	<ul style="list-style-type: none"> - Paper follows most guidelines. - Paper is over/ under word length. 	<ul style="list-style-type: none"> - Paper follows designated guidelines. - Paper is the appropriate length as described for the assignment. -Format is good. 	<ul style="list-style-type: none"> - Paper follows all designated guidelines. - Paper is the appropriate length as described for the assignment. -Format enhances readability of paper.
Grammar, Punctuation & Spelling Check and double check. Look for easy errors. Have someone else proof read your paper.	<ul style="list-style-type: none"> - Paper contains numerous grammatical, punctuation, and spelling errors. - Language uses jargon or conversational tone. 	<ul style="list-style-type: none"> - Paper contains few grammatical, punctuation and spelling errors. - Language lacks clarity or includes the use of some jargon or conversational tone. 	<ul style="list-style-type: none"> - Rules of grammar, usage, and punctuation are followed with minor errors. Spelling is correct. 	<ul style="list-style-type: none"> - Rules of grammar, usage, and punctuation are followed; spelling is correct. - Language is clear and precise; sentences display consistently strong, varied structure.

Standards for Performance

Sample Rubric to refer for transdisciplinary learning

Artist Webpage RUBRIC	Incomplete	Needs Improvement	Proficient	Exemplary
Main Artist Page 10 %	Page is incomplete, lacks all components of the assignment 0 pts.	Page is lacking requirements; demonstrates minimal understanding of information, incorrect titling 1 – 5 pts.	Page includes most of the required information demonstrates some understanding of the information. Includes a standard portrait and artist quote 6 – 9 pts.	Page includes all of requirements or more; demonstrates insightful understanding of information; includes a unique portrait and artist quote 10 pts.
Art History Subpage 20%	Subpage has little to no content, information is incorrect in all categories 0 pts.	Minimal information given, some incorrect or misinterpreted. Demonstrates little evidence of understanding in all categories including abilities in research and development of responses 1 – 10 pts.	Page is complete and demonstrates a basic understanding of information. Answers lack fullness and variety in some categories. Research is complete and effective 11 – 19 pts.	Page includes all requirements; demonstrates exceptional understanding and proposes a variety of information in each category. Response is accurate and shows application of insightful research 20 pts.
Photograph Subpage 20%	Subpage has little to no content, information is incomplete 0 pts.	Substantial amount of missing photographs, minimal answers with limited understanding of photographic significance. Limited efforts in display of each image 1 – 10 pts.	Most of the photographs are significant. Answers lack fullness and with some mistakes in titling/display. Effective grouping of images in relation to their own work 11 – 19 pts.	All photographs are significant and include an abundance of information. Strong display of artist's portfolio in application to their own photography 20 pts.
Works Cited Subpage 20 %	Subpage has little to no content, information is incorrect 0 pts.	Minimal research for effective information; Substantial amount of missing information, incorrect citations with disregard to project requirements 1 – 10 pts.	Basic research that provides effective information. Partial understanding of requirements with most of the sources properly cited, a few errors in format or misinformation 11 – 19 pts.	Extensive selections of information; Demonstrates understanding of requirements with extra efforts in building their research, little to no citation errors 20 pts.
Creativity & Page Layout 30%	Website is incomplete with no effort or creativity 0 pts.	Little effort to format their website with lack of creativity in its overall layout. Difficulty with arranging information for an effective result 1 – 15 pts.	Website includes most of the formatting requirements; layout needs more attention, some efforts with creativity and format and active arrangement 16 – 29 pts.	Extra time and effort spent to correctly format the website with an extremely creative and logical approach to the project. Effectively distributes information with images 30 pts.

Assessment of science inquiry process integrating ICT using rubric

Multimedia Presentation Rubric

Categories and criteria	Level 1	Level 2	Level 3	Level 4
Knowledge/Understanding Topic	Demonstrates limited understanding of topic	Demonstrates some understanding of topic	Demonstrates considerable understanding of topic	Demonstrates thorough and insightful understanding of topic
Thinking/Inquiry Analysis, Interpretation	Analyzes and interprets information with limited effectiveness	Analyzes and interprets information with some effectiveness	Analyzes and interprets information with considerable effectiveness	Analyzes and interprets information with a high degree of effectiveness
Communication Language and style	Communicates orally with a limited sense of audience and purpose	Communicates orally with some sense of audience and purpose	Communicates orally with a clear sense of audience and purpose	Communicates orally with a strong sense of audience and purpose
Planning	Demonstrates limited preparation for performance	Demonstrates moderate preparation for performance	Demonstrates considerable preparation for performance	Demonstrates extensive preparation for performance
Presentation Conventions	Uses audio-visual elements to enhance performance Uses support materials ineffectively	Uses some audio-visual elements to enhance performance Uses support materials with moderate effectiveness	Uses a variety of audio-visual elements to enhance performance Uses support materials effectively	Uses creative/innovative audio-visual elements to enhance performance Uses support materials with a high degree of effectiveness
Other				

First-Year Seminars - Global Learning Outcomes Rubric

The student in this course . . .	Emergent	Satisfactory	Strong	Excellent
Reads Actively	Has difficulty understanding and comprehending course materials.	Demonstrates understanding and comprehension of texts.	Moves beyond basic understanding, qualifies meaning, questions, and responds to texts.	Demonstrates clear understanding, identifies, evaluates, discusses, and reflects on evidence within texts.
Examines Assumptions	Assumptions are sometimes unclear or unrelated to topic and context.	Acknowledges the role of implicit and explicit assumptions with regard to topic and context.	Acknowledges and reflects on the role of implicit and explicit assumptions with regard to topic and context.	Engages rhetorically with the role of implicit and explicit assumptions with regard to topic and context.
Explains Issues	Written or verbal moves do not always accurately convey ideas.	Makes sufficient and accurate restatements of personal and learned ideas.	Accurately restates, paraphrases, or summarizes personal and learned ideas in discussion and writing.	Accurately restates, paraphrases, or summarizes personal and learned ideas in discussion and writing while maintaining an academic, logical, and bias-free voice.
Understands Context and Purpose for Writing	Context and purpose is vague or unclear.	Context and purpose is clear.	Demonstrates understanding of context and purpose in response to assigned writing.	Awareness of context and purpose has led to insight and discovery.
Develops Content	The student provides basic insight into concepts.	The student provides thoughtful insight into concepts.	The student shows an enriched understanding of concepts and makes distinctions among them.	The student achieves a broader understanding of the nuanced nature of content and synthesizes what has been learned.
Expresses a Point of View	Clear focus and organization is lacking.	Point of view is present and followed by logical organization.	Point of view is focused and original and followed by logical organization and clear connections.	The essay sustains a well-focused and well-organized analysis that logically connects creative, original, and relevant ideas.
Accesses and Organizes Information	Accessed information yields limited results.	Student is able to match information needs to search tools and produce useful results.	Student is able to match information needs to a research process, use keywords, and hone research questions.	Student is able to effectively conduct a research process, use search terms, and develop and revise research questions that organizes rich information.
Uses Sources and Evidence	Provides little supporting evidence and few, if any, citations.	Provides supporting evidence and uses citation standards.	Provides specific, appropriate, and adequate supporting evidence and shows awareness of citation standards.	Provides credible and compelling supporting evidence while accurately using citation standards.
Draws Conclusions and Identifies Related Outcomes	Infrequent acknowledgement of conclusions and topical outcomes.	Acknowledges arguments, perspectives, ideas, and information.	Synthesizes arguments, perspectives, ideas, and information while contributing to scholarship.	Defly synthesizes arguments, perspectives, ideas, and information while contributing to scholarship in unique and compelling ways.
Demonstrates Control of Syntax and Mechanics	The prose contains errors that cause confusion or obscure meaning.	The prose contains few errors that confuse or obscure meaning.	The prose is readable and largely error-free.	The prose is clear, error-free, and dynamic.

1.) Ideas and Concepts	Distinguished 60 – 56 Points (A)	Proficient 55 – 51 Points (B)	Basic 50 – 47 Points (C)	Below Basic 46 – 40 Points (D/F)
<ul style="list-style-type: none"> Identifies a worthy problem. Organization, as presented, is ready for implementation. Objectives are clearly stated. Offers a viable solution to the problem. 	Exceeds the standards with compelling evidence of thought, ingenuity, and foresight.	Meets many of the standards, displaying critical thinking and creativity. Noticeable lapses in planning are NOT present.	Meets some of the standards and often careless. Thinking poses significant gaps.	Proposal is lacking sufficient information for consideration. Many factors of the proposal were ignored or missing.

2.) Proposal Writing	Distinguished 60 – 56 Points (A)	Proficient 55 – 51 Points (B)	Basic 50 – 47 Points (C)	Below Basic 46 – 40 Points (D/F)
<ul style="list-style-type: none"> All parts of the grant proposal are addressed appropriately and with precision. The plan for implementing the proposal is written precisely and in a way that is clear to the reader. Research is evident and documented throughout the proposal. Professionalism guides the writing of the proposal. Adheres to conventions of English (grammar, usage, and mechanics). 	Exceeds the standards with compelling command of the language which enhances the persuasiveness of the proposal. Writers understand the needs of the audience; therefore, use prose or lists appropriately.	Meets many of the standards, but sporadically maintains control of the language. Transitions between writers may be noticeable and the proposal may not be fluid.	Meets only some standards, but the use of language does not create persuasiveness and attention to the audience was not considered.	Proposal is poorly written with little to no regard for the audience and the requirements for the assignment. Extensive revisions are required to make this proposal in alignment with the standards.

3.) Panel Presentation	Distinguished 80 – 75 Points (A)	Proficient 74 – 68 Points (B)	Basic 67 – 62 Points (C)	Below Basic 61 – 56 Points (D/F)
<ul style="list-style-type: none"> Articulate and persuasive presentation by all members of the group. Ability to address critical questions from the panel with thoughtful, logical responses. Presenters are dressed and act professionally. 	Exceeds the standards with compelling poise and persuasiveness.	Meets some standards using preparation to create a confident and strong proposal.	Meets only some of the select standards which may result in a presentation that seems ill prepared.	Presenters are far from ready to present and are not able to articulate the proposal in a professional manner.

Total Score: #1 Ideas and Concept _____/60

#2 Proposal Writing _____/60

/120 Points

#3 Panel Presentation _____/80 Points

To be continued later
...Thank you

Terima kasih

谢谢您

Xie xie ning

Nan dhri

ありがとうございました

Arigatogozaimatsu