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| **Title** | Our Innovations: Implementation and Communication. |
| **Author** | Paul Olsen |
| **Target Pupils** | 21st Century Literacy and Innovation Course |
| **Course Goals** | Students in this course will know how to collaborate, communicate, create, and critically think. They will understand the role these actions play in the process of solving problems and innovating. Students will identify problems that are authentic to them and work in groups to produce appropriate solutions to their problems. They will do this having critically considered the ethical ramification of their solutions and the context in which their innovations are existing. |
| **Course Rationale** | The modern workforce is shifting away from an industrialized model and is prioritizing creative problem solving and innovation as the way to maintain a productive society and economy. Schools must follow suit by providing authentic experiences where students are forced to be self-sufficient problem solvers of real-world problems. Technology is changing at a rate that teaching specific technical skills is less important than teaching how to respond to changes and be self-educating. |
| **Course Essential Questions** | What is innovation? How do we identify problems?  What are the steps necessary to understand problems?  How do we get from identifying problems to resolving them?  What does it take to effectively collaborate, communicate, critically think and create?  How has technology aided in solving problems? |
| **Performance Task** | * **Goal:** what do you want students to know, understand and do by the end of this course   + Students in this course will know how to collaborate, communicate, create, and critically think. They will understand the role these actions play in the process of solving problems and innovating. Students will identify problems that are authentic to them and work in groups to produce an appropriate solution to the problem. * **Role:** what real world role will the student play?   + Students will be identifying a challenge or problem present in the community they identify with. The student will then spend the course identifying methods to solve the problem and do so in an authentic way. * **Audience:** with whom will the outcome be shared?   + The outcome will be shared with both the classroom community within which the students are collaborating, but other identified stakeholders who are affected by the problem and its subsequent solution. * **Situation:** what will the real world situation be?   + This will be identified by the student as they work to understand the scope and impacts of the problems they are addressing. The classroom will serve as a think tank whose objective is to work together to resolve real world problems by * **Product, performance, purpose:** what will students produce or perform.   + The product for this course will be a portfolio of their work over the course of the semester in which they identify how they have utilized 21st century competencies to solve problems through. These portfolios will vary based on the nature of the problems the students identify and will possess different artifacts that students use to explain their communication, collaboration, critical thinking, and creativity. These artifacts may include, but are not limited to, written proposals, websites, mobile application designs, public presentations, graphic organizers/infographics, digital multimedia, etc. For each artifact the student will need to have generated a self-assessment rubric to justify the methods used. |
| **Attach Performance Task Scoring Guide** | Rubric Attached Below. Key Assessments 1 and 2 will be evenly weighted, Key Assessment 3 will be weighted at twice the value. |

Key Assessment Skills Rubrics:

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|  | **Course Based Specific Standards** | **National Educational Technology Standards for Students**  **(NETS-S)** |
|  | Shown as proficient. Deficiencies in categories will decrease proficiency rating. | |
| Citizenship | Uses multiple Perspectives to display empathy  Is able to demonstrate awareness of affected groups  Understand the societal role innovation plays. | Advocate and practice safe, legal, and responsible use of information and technology.  Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.  Demonstrate personal responsibility for lifelong learning.  Exhibit leadership for digital citizenship. |
| Information Literacy |  | Plan strategies to guide inquiry.  Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.  Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.  Process data and report results. |
| Communication | Uses Multiple Methods  Is timely at meeting deadlines  Communication is clear and thorough  Is consistent with message  Provides justification | Interact, collaborate, and publish with peers, experts or others employing a variety of digital environments and media.  Communicate information and ideas effectively to multiple audiences using a variety of media and formats,  Develop cultural understanding and global awareness by engaging with learners of other cultures.  Contribute to projects teams to produce original works or solve problems. |
| Critical Thinking | Identifies Bias  Uses Evidence from Multiple Sources  Demonstrate ability to transfer knowledge | Identify and define authentic problems and significant questions for investigation.  Plan and manage activities to develop a solution or complete a project.  Collect and analyze data to identify solutions and/or make informed decisions.  Use Multiple processes and diverse perspectives to explore alternative solutions. |
| Collaboration | Personal Responsibility Follows through  Organized  Delegation  Shares expertise  Clearly Communicates  Is responsive to needs of the group  Uses time effectively |  |
| Digital Literacy |  | Understand and use technology systems.  Select and use applications effectively and productively.  Troubleshoot systems and applications.  Transfer current knowledge to learning of new technologies |
| Leadership | Identifies Group Skills/Needs  Adapts to Changing Circumstances  Delegates  Ensure Focus on Objective  Communicates Clearly with Group |  |
| Creativity |  | Apply existing knowledge to generate new ideas, products, or processes.  Create original works as a means of personal or group expression.  Use models and simulations to explore complex systems and issues.  Identify trends and forecast possibilities. |

Rubric for the 6 Facets of Understanding: Grant Wiggins and Jay McTighe: Understanding by Design

Used to assess content of work as the format or mode of work is student driven and creating a rubric is part of the expectation for each mode a student selects to use, i.e. the student will develop the rubric (with instructor coaching) for a video they create, a paper they write, or a website they create.

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| Explanation | Interpretation | Application | Perspective | Empathy | Self-knowledge |
| *Sophisticated:* an unusually thorough, elegant, and inventive account (model, theory, or explanation); fully supported, verified, and justified; deep and broad: goes well beyond the information given. | *Profound:* a powerful and illuminating interpretation and analysis of the importance /meaning/ significance; tells a rich and insightful story: provides a rich history or context; sees deeply and incisively any ironies in the different interpretations. | *Masterful:* fluent, flexible, and efficient; able to use knowledge and skill and adjust understandings well in novel, diverse, and difficult contexts. | *Insightful:* a penetrating and novel viewpoint; effectively critiques and encompasses other plausible perspectives; takes a long and dispassionate view of the issues involved. | *Mature:* disposed and able to see and feel what others see and feel; unusually open to and willing to seek out the odd, alien, or different. | *Wise:* deeply aware of the boundaries of one's own and others' understanding; able to recognize his prejudice and projections; has integrity=able and willing to act on what one understands. |
| *In-depth:* an atypical and revealing account, going beyond what is obvious or what was explicitly taught; makes subtle connections; well supported by argument and evidence; novel thinking displayed. | *Revealing:* a nuanced interpretation and analysis of the importance/ meaning/ significance: tells an insightful story; provides a telling history or con text; sees subtle differences, levels, and ironies in diverse interpretations. | *Skilled:* competent in using knowledge and skill and adapting understandings in a variety of appropriate and demanding contexts. | *Thorough:* a revealing and coordinated critical view; makes own view more plausible by considering the plausibility of other perspectives; makes apt criticisms, discriminations, and qualifications. | *Sensitive:* disposed to see and feel what others see and feel; open to the unfamiliar or different. | *Circumspect:* aware of one's ignorance and that of others; aware of one's prejudices; knows the strengths and limits of one's understanding. |
| *Developed:* an account that reflects some in-depth and personalized ideas; the student is making the work her own, going beyond the given—there is supported theory here, but insufficient or inadequate evidence and argument. | *Perceptive:* a helpful interpretation or analysis of the importance/ meaning/ significance; tells a clear and instructive story; provides a useful history or con- text; sees different levels of interpretation. | *Able:* able to perform well with knowledge and skill in a few key contexts, with a limited repertoire, flexibility, or adaptability to diverse contexts. | *Considered:* a reasonably critical and comprehensive look at all points of in the context of one's own; makes clear that there is plausibility to other points of view. | *Aware:* knows and feels that others see and feel differently; somewhat able to empathize with others; has difficulty making sense of odd or alien views. | *Thoughtful:* generally aware of what is and is not understood; aware of how prejudice and projection can occur without awareness and shape one's views. |

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| *Intuitive:* an incomplete account but with apt and insightful ideas; extends and deepens some of what was learned; some "reading between the lines"; account has limited support/ argument/data or sweeping generalizations  There is a theory, but one with limited testing and evidence. | *Interpreted:* a plausible interpretation or analysis of the importance/ meaning/ significance; makes sense of a story; provides a history or context. | *Apprentice:* relies on a limited repertoire of routines; able to perform well in familiar or simple contexts, with perhaps some needed coaching; limited use of personal judgment and responsiveness to specifics of feedback/situation  . | *Aware:* knows of different points of view and somewhat able to place own view in perspective, but weakness in considering worth of each perspective or critiquing each perspective, especially one's own; uncritical about tacit assumptions. | *Developing:* has some capacity and self-discipline to "walk in another's shoes, but is still primarily limited to one's own reactions and attitudes: puzzled or put off by different feeling. | *Unreflective:* generally unaware of one's specific ignorance; generally unaware of how subjective prejudgments color understandings. |
| *Naive:* a superficial account; more descriptive than analytical or creative; a fragmentary or sketchy account of facts/ideas or glib generalizations; a black-and-white account less a theory than an unexamined hunch or borrowed idea. | *Literal:* a simplistic or superficial reading; mechanical translation; a decoding with little or no interpretation; no sense of wider importance or significance; a restatement of what was taught or read. | *Novice:* can perform only with coaching or relies on highly scripted, singular "plug-in" (algorithmic and mechanical) skills, procedures. or approaches. | *Uncritical:* unaware of differing points view; prone to overlook or ignore other perspectives; has difficulty imagining other ways of seeing things; prone to egocentric argument and personal criticisms. | *Egocentric:* has little or no empathy beyond intellectual awareness of others; sees things through own ideas and feelings; ignores or is threatened or puzzled by different feelings, attitudes, or views. | *Innocent:* completely unaware of the bounds of one's understanding and of the role of projection and prejudice in opinions and attempts to understand. |