|  |  |
| --- | --- |
| **Communicating with Data** **21st Century Skills** | Image result for infographic |

## Objectives

**Students completing this series of exercises will learn to:**

* Apply scientific and technical knowledge to specific tasks and problems
* Engage in independent learning, critical thinking, problem definition, and problem solving
* Participate effectively in individual and team-related activities

**Introduction**

**As we look to the 21st century workforce we see employers looking for soft-skills.** While working on this team project we will be practicing skills, including critical thinking, creativity, collaboration and communication. You will also be asked to employ your literacy skills relative to information acquisition, media consumption, data acumen, and technology utilization. Learning and literacy skills are critical, but equally important are the life skills including the ability to be flexible, act as a leader in your group, maintain productivity on this research and the course, and practice social skills that foster positive group experiences.[[1]](#footnote-1) The module will emphasizes skills that are essential to carry out interdisciplinary research including teamwork and an understanding of how to work together in diverse groups to achieve a collective goal.

**Activity I: Leadership Skills[[2]](#footnote-2)**

1. **Complete the Leadership Assessment 2020[[3]](#footnote-3).** The purpose of this Leadership Self-Assessment is to provide a leadership profile based on the competencies necessary for strong, superior leadership. When you have completed the assessment, score your responses using the How to Score tab.
2. Review your scores in each domain. In the table below report one low score in each domain and describe the item with the low score.

|  |  |  |
| --- | --- | --- |
| Domain | Item with Lowest Score | Description |
| Focused Drive |  |  |
| Emotional Intelligence |  |  |
| Trusted Influence |  |  |
| Conceptual Thinking |  |  |
| Systems Thinking |  |  |

1. How do you think your low score affects your performance?

1. Is there anything you think you can do to improve your performance on this indicator?

1. Review your scores in each domain. In the table below report one high score in each domain and describe the item with the high score.

|  |  |  |
| --- | --- | --- |
| Domain | Item with highest Score | Description |
| Focused Drive |  |  |
| Emotional Intelligence |  |  |
| Trusted Influence |  |  |
| Conceptual Thinking |  |  |
| Systems Thinking |  |  |

1. How do you think this characteristic improves your performance?
2. How do you think this kind of strength can help a group to function better?

**Activity II: Leadership Skills and Group Work**

**This activity has you thinking about leadership and building your team. As a group discuss the results of your team members’ leadership assessments. Discuss your strengths and weaknesses. The answers below should reflect the group consensus:**

1. **Who are your team members (names and contact information):**
2. **What are the strengths of your group?**
3. **What areas will need to be improved for your group as a whole (or are all strengths represented)?**
4. **How will your group support each other and the excellence of the project?**
5. **What group norms would your group like to observe?**

**Activity III: 21st Century Skills**

**How can we create a Rubric to address the core 21st Century skills:** critical thinking, creativity, collaboration, flexibility, leadership, productivity, and social skills? What would those 21st Century Skills look like in practice?

1. In the table below define the behaviors and actions that would be evidence of someone practicing the core skills.

|  |  |
| --- | --- |
| Core Skill | Skills in Practice |
| Critical Thinking |  |
| Creativity |  |
| Collaboration |  |
| Flexibility |  |
| Leadership |  |
| Productivity |  |
| Social Skills |  |

**Activity III: 21st Century Skills**

In the syllabus I gave you a basic resume description that you could use once you finished this course. Here it is again:

**Research Assistant** January 2020 - May 2020

*Monfils Lab - Central Michigan University: Poweshiek skipperling Conservation and Management*

* Built a collaborative research team to address <<project you team works on>>.
* Identified, evaluated, cleaned, data derived from <<<<data repositories and resources>>>
* Analyzed digital data and conducted <<<statistical analysis>>>with <<<program>>>
* Used <<<program>>> to create <<<data visualization>>>>
* Completed CITI human subjects ethics certification and employed ethical data practices
1. **Rewrite this description to fit the research you did and the 21st Century Skills you practiced in this course.**
2. **You took a Leadership Assessment at the beginning of the semester. You learned about your strengths and areas you could improve your performance. What strengths did you use in your group? How did you work on the areas that could be improved? Make sure you report your strengths and areas for growth from the original assessment and provide specific details on how you built up your strengths and improved your performance on specific indicators while working in your group and on the research project.**
3. **Below is the list of Core 21st Century Skills. You and your team mates filled this out at the beginning of the semester. Fill in the table below with the skills put in to practice in this course.**

|  |  |
| --- | --- |
| Core Skill | Skills in Practice |
| Critical Thinking |  |
| Creativity |  |
| Collaboration |  |
| Flexibility |  |
| Leadership |  |
| Productivity |  |
| Social Skills |  |

1. To learn more about 21st Century skills go to: <https://www.aeseducation.com/career-readiness/what-are-21st-century-skills> [↑](#footnote-ref-1)
2. This assignment informed by the material of [Dr. M. Guaghan](https://isearch.asu.edu/profile/2190003), Arizona State University [↑](#footnote-ref-2)
3. United States Department of Agriculture, Natural Resources Conservation Service — Social Sciences Team Technical Note 6.1, February, 2003

<http://www.ssi.nrcs.usda.gov/publications/2_Tech_Reports/T024_Leadership_Assessment.html> [↑](#footnote-ref-3)