

COURSE TITLE: TEACHING DECISION-MAKING AS A SPECIFIC SKILL

WA CLOCK HRS: 60

NO. OF CREDITS: 6 QUARTER CREDITS
[semester equivalent = 4.00 credits]

OREGON PDUs: 60

PENNSYLVANIA ACT 48: 60

INSTRUCTOR: Anna Switzer
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COURSE DESCRIPTION:

This course is designed to support teachers in developing the language and techniques for teaching decision-making skills to students. Teaching this skill is important because our decisions shape the quality of our lives, communities, and environment. Many decision-making models are available, and this course is designed around one called Stakeholders-Consequences Decision Making or SCDM. It was developed at Northwestern University to be taught alongside Environmental Science content and in the context of Project-Based Learning. However, it is a flexible model and can be used in many different ways, with multiple grade levels, and in multiple subject areas (including both academic and social-emotional learning). You can confidently use and teach the model through practice. It is powerful for both individual and team-based decisions.

The course is intended for grades 6-12 PBL and/or science teachers, para-educators, instructional guides, counselors, and administrators. School administrators can use SCDM for school-wide decisions and/or to support staff involvement in decision-making efforts.

Required Materials:

Dissertation entitled: Assessing Changes in High School Students' Environmental Decision-Making Skills: Some Methodological Contributions" by Anna Switzer, 2009 included in the "Decision-making Tool-kit" for \$35 materials fee payable to the instructor after registration. Email the instructor directly to arrange payment via Venmo, Zelle, Paypal, or check via snail mail. The PDF file will be sent upon receipt of payment. **Required for all participants.**

Required Text:

America's Critical Thinking Crisis: The Failure and Promise of Education by Steven J Pearlman (2020). Approximately \$20 from Amazon. **Required for all 500-level participants only.**

LEARNING OUTCOMES: Upon completion of this course, participants will have:

- Reflected on your own current decision-making techniques.
- Checked current understanding of terms related to decision-making.
- Familiarized yourself with the Stakeholders-Consequences Decision-Making Model.
- Gone deeper into decision-making within the environmental context, in order to prompt consideration of your own context more deeply.
- Used the Cascading Consequences Chart to begin comparing options.
- Looked deeply at three key aspects of consequences.
- Considered how "Cascading Consequences" Charts assist in overcoming biases.
- Considered how values play a role in decision-making.
- Explored the consequences of utilizing misinformation in decision-making.
- Considered who and what might be affected by a decision.
- Created a final decision statement, including your main reasoning for it.
- Created more options by brainstorming criteria, if needed.
- Utilized this SCDM process with a current decision – either personally or professionally.
- Considered the assessment of decision-making skills; i.e. when there is no one "right" answer.
- Considered decision-making, and SCDM in particular, in the context of critical thinking skills.

COURSE REQUIREMENTS:

Completion of all specified assignments is required for issuance of hours or credit. The Heritage Institute does not award partial credit.

HOURS EARNED:

Completing the basic assignments (Section A. Information Acquisition) for this course automatically earns participants their choice of CEUs (Continuing Education Units), Washington State Clock Hours, Oregon PDUs, or Pennsylvania ACT 48 Hours. The Heritage

Institute offers CEUs and is an approved provider of Washington State Clock Hours, Oregon PDUs, and Pennsylvania ACT 48 Hours.

UNIVERSITY QUARTER CREDIT INFORMATION

REQUIREMENTS FOR UNIVERSITY QUARTER CREDIT

Continuing Education Quarter credits are awarded by Antioch University Seattle (AUS). AUS requires 75% or better for credit at the 400 level and 85% or better to issue credit at the 500 level. These criteria refer both to the amount and quality of work submitted.

1. Completion of Information Acquisition assignments 30%
 2. Completion of Learning Application assignments 40%
 3. Completion of Integration Paper assignment 30%
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CREDIT/NO CREDIT (No Letter Grades or Numeric Equivalents on Transcripts)

Antioch University Seattle (AUS) Continuing Education Quarter credit is offered on a Credit/No Credit basis; neither letter grades nor numeric equivalents are on a transcript. 400 level credit is equal to a "C" or better, 500 level credit is equal to a "B" or better. This information is on the back of the transcript.

AUS Continuing Education quarter credits may or may not be accepted into degree programs. Prior to registering, determine with your district personnel, department head, or state education office the acceptability of these credits for your purpose.

ADDITIONAL COURSE INFORMATION

REQUIRED TEXT

Required Materials:

Dissertation entitled: Assessing Changes in High School Students' Environmental Decision-Making Skills: Some Methodological Contributions" by Anna Switzer, 2009 included in the "Decision-making Tool-kit" for \$35 materials fee payable to the instructor after registration. Email the instructor directly to arrange payment via Venmo, Zelle, Paypal, or check via snail mail. The PDF file will be sent upon receipt of payment. Alternatively, as of June 2023, *New Option* for instant download at this [link](#) (uses paypal).

Required Text:

America's Critical Thinking Crisis: The Failure and Promise of Education by Steven J Pearlman (2020). Approximately \$20 from Amazon. **Required for 500-level participants only.**

None. All reading is online.

MATERIALS FEE

Dissertation entitled: Assessing Changes in High School Students' Environmental Decision-Making Skills: Some Methodological Contributions" by Anna Switzer, 2009 included in the "Decision-making Tool-kit" for \$35 materials fee payable to the instructor after registration. Email the instructor directly to arrange payment via Venmo, Zelle, Paypal, or check via snail mail. The PDF file will be sent upon receipt of payment.

ASSIGNMENTS REQUIRED FOR HOURS OR UNIVERSITY QUARTER CREDIT

A. INFORMATION ACQUISITION

Assignments done in a course forum will show responses from all educators who have or are taking the course independently. Feel free to read and respond to others' comments.

Group participants can only view and respond to their group members in the Forum.

Assignment #1: Initial Reflection

1. Reflect on your current decision-making techniques.

2. Write a 1-2 page reflection about these techniques.
 - a. What do you typically do when faced with a decision?
 - b. How do you approach a team- or partnership-based decision?
 - c. Where/how did you learn these approaches or techniques?
 - d. Where/how do you feel good/great about them, and where/how do you feel they could be more effective?
 - e. How have you assessed whether your decision was a 'good' one?

Assignment #2: Definitions Related to Decision-Making

Check current understanding of terms related to decision-making. There is a page for you to record your thoughts in the "tool-kit."

1. For each of the following words – and without looking at any external resources— write out definitions for the following. This will serve as a point of comparison later in the course; do not worry if you are unsure of your responses:

- a. critical thinking
- b. decision-making
- c. options
- d. consequences
- e. certainty
- f. uncertainty
- g. values
- h. stakeholders
- i. bias
- j. criteria
- k. constraints
- l. considerations

2. Examine the ABCD graphic in the "tool-kit." Write a 2-3 paragraph synopsis of this graphic using any of the words from the previous list that make sense. Note: don't force-fit anything– they may not all apply directly.

Assignment #3: SCDM Model of Decision-Making

Learn about Stakeholders-Consequences Decision-Making Model.

1. Read the article entitled "Learning to Make Systematic Decisions" (2006). You can download it here:

<https://www.nsta.org/science-teacher/science-teacher-march-2006/learning-make-systematic-decisions>

2. Write a 2-3 paragraph reflection about how you see this technique potentially being applied in your particular subject/context/role. In other words, see if you can "peel" the technique away from the environmental context here (unless environmental science is your context).

- a. What is novel and/or beneficial about this technique from your perspective?
- b. What seems age-appropriate for the people you might teach it to or use it with, given your context/role?

Assignment #4: Environmental Decision-Making

Go deeper into decision-making within the environmental context, in order to prompt consideration of your context more deeply.

1. Read pages ix, x, xi, and 1-18 (Chapter 1) of the Switzer dissertation.
2. Write 2-3 paragraphs about what thoughts and/or curiosities are prompted for you after reading.
3. Write 1 page about what ideas are beginning to develop regarding decision-making in your own academic context. Consider:
 - a. Are you a teacher or administrator?
 - b. What subject(s) do you teach?
 - c. Who has decision-making power in your context, and under what circumstances?
 - d. Where might your students (or if an administrator, your teachers) benefit from the inclusion of an explicit model of decision-making?

Assignment #5: Comparison of Two Options

Use the Cascading Consequences Chart to Begin Comparing Two Options

1. Read pages 19- 39 (part of Chapter 2) of the Switzer dissertation.
2. Consider a decision you have in front of you now - in any context. It could be in a personal or professional context, but one that you feel comfortable sharing about (with the instructor as the only audience).
3. Determine at least two options that are present in this decision. Draw a square in the middle of a piece of paper and write a brief phrase that represents that option. Separate pieces of paper are recommended for each option. You can use the included blank diagram in the tool-kit (page x), but it might not contain the exact right "map" of consequences. It will at least give you a visual of the kind of diagram you are creating.
4. Coming out from the square/option (on each paper), draw a line that goes out to a circle you've drawn. Inside the circle, write out one consequence of choosing that option. Do this for as many consequences as you can think of right now; you can always add more later. It is important that each consequence gets its own circle.
5. Once you have at least 3 or 4 of these circles (consequences) for each option, pause. Change your focus now to one of the circled consequences and extend a line out from it and draw another circle. Inside that circle, write out a consequence of that consequence. Continue doing this for all the other circles, and for both options. Your diagrams will start to look like the blank one I've included in this lesson, but the pattern of the circles may differ. By looking at the consequences OF EACH CONSEQUENCE, you might understand why the diagram is called a "Cascading Consequences" chart/diagram.
6. Write a 1-page reflection about this idea of "Cascading Consequences."
 - a. What seems unique or powerful about it?
 - b. How does it help you to understand the two options in front of you in your decision/context in a way you might not have seen before?

Assignment #6: Aspects/Descriptors of Consequences

Look deeply at three key aspects of consequences.

1. Take out your Cascading Consequences diagrams from the previous lesson, and look them over.
2. In the "Initial Exploration" section of the page called "Key Aspects of Consequences: An Exploration" in the "tool-kit," identify one consequence that you would describe as each of the following (can use either option's diagram):
 - a. direct
 - b. indirect
 - c. positive
 - d. negative
 - e. intended
 - f. unintended
3. Using the "Secondary Exploration" section, write out 4 consequences and discern all three key aspects of that consequence (direct OR indirect; positive OR negative; intended OR unintended).
4. Reflect on and write about any "a-ha's" regarding consequences.
5. Upload an image of your Cascading Consequence chart and your Aspects Exploration document.

Assignment #7: Cognitive Bias

Consider how "Cascading Consequences" Charts assist in overcoming cognitive biases.

1. Read the following articles about common biases in decision-making.
 - a. <https://www.indeed.com/career-advice/career-development/decision-making-biases>
 - b. <https://harappa.education/harappa-diaries/decision-making-biases/>
2. Write a 1-2 page reflection about two types of bias that you think these Cascading Consequences charts might help decision-makers to avoid. Include your reasoning and/or examples from your work so far.

Assignment #8: Values

Consider how values play a role in decision-making and in teaching/leading.

1. Write a 2-3 paragraph reflection about how you currently think about the role of values in decision-making. For example, how do you (in your own life) combine “facts” or information and values in making decisions?
2. Reread pages 30-39 in the Switzer dissertation.
3. Write a 1-2 page reflection on how you think your values “play out” in your teaching or leading. Include thoughts about the following:
 - a. Are you aware of any explicit or implicit use of values in your work/teaching?
 - b. How do you think most people learn to make decisions that are consistent with their values?
 - c. Do you think, in general, that we humans are very good at this (specifically making decisions that combine values and factual information)? Why or why not?

Assignment #9: Dealing with Misinformation

Explore the consequences of utilizing misinformation in decision-making.

1. Write 1-2 paragraphs about where/how misinformation might play a role in all of our lives and decision-making.
2. Read the Teacher Guide document for a short unit called “Resisting Scientific Misinformation: A Curriculum Unit for Grades 6-12) to be found here:

<https://tumblehomebooks.org/services/resisting-scientific-misinformation/>

(Note: you can watch any of the videos or look into the lesson plans themselves if you wish, but this is optional. The goal here is to get an idea of what the curriculum is attempting to accomplish.)

3. Write a 1-2 page reflection on why helping students discern credible information from misinformation is important regarding decision-making. How would it throw off the SCDM process if misinformation is included in the CC chart, for example?

Assignment #10: Stakeholders

Consider who and what might be affected by a decision.

1. Reread pages 23 through the top of page 29 of the Switzer dissertation.
2. Write a 2-3 paragraph summary about why SCDM is called an “Environmental Decision-Making” technique.
3. When you look at your decision (from Assignments 5 and 6), who are all of the stakeholders that are represented? One good method for figuring this out is to go back to your Cascading Consequences Charts and search all of the consequence “bubbles” for people or things that are named there. Make a list of these.
4. For each stakeholder you have identified, fill out a row in the included blank Stakeholder Chart. If you’d like an example Stakeholder Chart, refer to Appendix D on page 139 of the Switzer dissertation. Note that this Stakeholder Chart refers to a Cascading Consequence Chart on page 138 of the Switzer dissertation.
5. Upload an image of your completed Stakeholder Chart.
6. Write a 1-page reflection on the importance of considering Stakeholders in decisions. Include thoughts about how well you have tended to do so in the past and any goals you have about doing so in the future.

Assignment #11: Decision Statement

Create a final decision statement, including your main reasoning for it.

1. Reread page 45 (the last page) in the 2006 article entitled “Learning to Make Systematic Decisions.” As a reminder, you can find the article here:
<https://www.nsta.org/science-teacher/science-teacher-march-2006/learning-make-systematic-decisions>
2. Look back at all the material you have created regarding your decision (i.e., in Assignments 5, 6, and 9).
3. Write a final decision statement. A decision statement is usually just 1-2 concise sentences. The first sentence names the

decision (i.e., which option was chosen). The second sentence names the main factor and/or reasoning behind the decision. If you need more than 2 sentences, this is fine.

4. Write a 1-2 page reflection on why this step is an important one to include when teaching students and/or leading groups.

Assignment #12: Coming up with More Options

Create more options by brainstorming criteria, if needed.

Note: So far, we have taken a dive into the SCDM model part-way through its listed steps. This is because, in most cases, the options in a decision are often apparent. In this lesson, you will back up to the beginning step in the model, so that you can use these steps as needed.

1. Reread the second page (41) of the "Learning to Make Systematic Decisions" (2006) article. Note the green "box" on the right-hand side, especially.
2. Revisit your initial definitions for criteria, constraints, and considerations from Assignment 2.
3. Using information from the green box, go ahead and fill in new definitions for these three words in the right-hand column of the chart on page 2-3 of your toolkit. Feel free to make the words your own.
4. Write a 1-2 paragraph reflection on a situation from the past, present, or future that you can envision the assistance that determining constraints and considerations might offer in helping to brainstorm more options if need be.

Clock Hours, PDUs, CEUs, and Act 48 participants must complete Section C - The Integration Paper to be awarded hours for this course.

ADDITIONAL ASSIGNMENTS REQUIRED FOR UNIVERSITY QUARTER CREDIT

B. LEARNING APPLICATION

In this section, you will apply your learning to your professional situation. This course assumes that most participants are classroom teachers who have access to students. If you do not have a classroom available to you, please contact the instructor for course modifications. Assignments done in a course forum will show responses from all educators who have or are taking the course independently. ?Feel free to read and respond to others' comments. Group participants can only view and respond to their group members in the Forum.

Assignment #13: Putting it All Together

Utilize this SCDM process with another current decision – either personally or professionally.

1. As you started to do in the previous lesson, complete the "later" column for all the other definitions you wrote in Assignment 2.
2. Write a 1-2 paragraph reflection on 1-2 terms where your understanding has grown.
3. Consider a decision you are facing in your personal or professional life. You can also consider a decision you might imagine putting in front of your students (e.g., through a project or curriculum) or your staff (if you are an administrator). SEL contexts are also welcome here as well.
4. Go through all of the SCDM steps as if you are the decision-maker for this decision.
 - Do options need to be brainstormed first?
 - What might the Cascading Consequences chart reveal? Draw them.
 - What might the Stakeholders chart reveal? Fill these charts out based on the Cascading Consequences charts you drew.
 - What decision might you make using this information? If it is not your decision but one you will put in front of others, make your best guess.
 - If you are not the decider, but are teaching this method to others, what do you need to be ready to address regarding any of the

steps or the content/information involved?

5. What questions might get asked during the process?
6. Write a sample decision statement for this decision (even if it is not your own).
7. Write a 1-2 page reflection on what you now see is the value of using and/or teaching this method.

Assignment #14: Assessment of Decision-Making Skills

Consider the assessment of decision-making skills, i.e., when there is no one “right” answer.

1. Refer back to your initial reflection from Assignment #1 and look specifically at what you wrote about assessing whether a decision is/was a “good” one or not.
2. Write a 1-2 paragraph reflection about how your ideas about assessment regarding decision-making have changed through thinking about the course material thus far.
3. Read pages 40 - (top part of) 46 in the Switzer dissertation.
4. Use the note catcher on page 8 of the tool-kit to reflect on the three methods described in the reading. In the left-hand column, describe the method as you understand it. In the right-hand column, write a description of how you might see each method as being useful to you, either professionally or personally.
5. If Coherence is one of your top choices, how would/could you go about getting information on Values?

Assignment #15: Unit or PD Plan

For guidance, please download THI's [lesson template](#).

1. Create a set of lesson plans, or a professional development plan, for teaching and using SCDM in your context/role.
2. Submit your lesson to your instructor for feedback via the lesson tab.
3. Implement your lesson in the appropriate context.
4. Write a 400-500 word commentary on what worked well and what could be improved.
 - a. What more did you learn about teaching decision-making as a specific skill?
 - b. Include any student feedback or noteworthy student products.
5. Share what you've learned with other teachers taking our courses by checking the [lesson library box](#) when you submit your lesson.

Assignment #16: (500 Level ONLY)

In addition to the 400-level assignments, complete **Option A** plus one **(1)** additional option.

Option A) Consider a Much Larger Context

Consider decision-making, particularly and SCDM in particular, in the context of critical thinking skills.

1. Read America's Critical Thinking Crisis: The Failure and Promise of Education by Steven J Pearlman (2020) and write a 4-5 page paper on the connections between the SCDM model and the author's report about critical thinking.
Angles to consider:
 - a. Where does SCDM support critical thinking, and where does it fall short?
 - b. If you were going to tell the author of America's Critical Thinking Crisis about SCDM, what would you want them to know?
 - c. Include 2-3 key quotes from ACTC to highlight your points.

AND/OR

Option B) Teaching Unit about Misinformation

1. Dive deeply into and teach the 5 lessons about dealing with misinformation called “Resisting Scientific Misinformation” that you explored in Lesson 9.

Note that the 5th lesson is presented as optional.
(<https://tumblehomebooks.org/services/resisting-scientific-misinformation/>)

2. Write a 2-3 page reflection on how it went.
3. Write a 2-3 page reflection on how your thinking about teaching decision-making is more informed after teaching these lessons.

AND/OR

Option C) Annotated Bibliography

Create an annotated bibliography of eight to ten reviews of literature or online sources that relate to decision-making and/or the teaching of decision-making, primarily focusing on educational applications (APA style). Then describe what you find most valuable for your professional and/or personal application. Lastly, describe in a 1-2 page reflection what seems most personally or professionally applicable to you from your bibliography and why.

Some starting points might include:

- Blink by Malcolm Gladwell (2007)
- Anything about values in education.

AND/OR

Option D) Another assignment of your own design with the instructor's prior approval.

C. INTEGRATION PAPER

Assignment #17: (Required for 400 and 500 Level)

SELF REFLECTION & INTEGRATION PAPER

(Please do not write this paper until you've completed all of your other assignments)

Write a 400-500 word Integration Paper answering these 5 questions:

1. What did you learn vs. what you expected to learn from this course?
 2. What aspects of the course were most helpful and why?
 3. What further knowledge and skills in this general area do you feel you need?
 4. How, when and where will you use what you have learned?
 5. How and with what other school or community members might you share what you learned?
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INSTRUCTOR COMMENTS ON YOUR WORK:

Instructors will comment on each assignment. If you do not hear from the instructor within a few days of posting your assignment, please get in touch with them immediately.

QUALIFICATIONS FOR TEACHING THIS COURSE:

Anna Switzer, Ph.D., is a long-time educator and started her career in the classroom as a high-school Physics and Math teacher. Later, she taught Earth Science (courses and labs) and Oceanography (labs) at the college level. She has also taught pre-service teachers (science) and in-service teachers (K-12, all subjects). Anna earned a BA in Physics (Kenyon College), an MS in Oceanography (North Carolina State University), and a Ph.D. in Education (University of Michigan). She has a strong background in Experiential Education, Project-Based Learning, and Environmental Education. She is a watercolor artist, lives in Oregon, and has written one book (so far) called License to Learn: Elevating Discomfort in Service of Lifelong Learning (2020).

BIBLIOGRAPHY

TEACHING DECISION-MAKING AS A SPECIFIC SKILL

Edelson, D.C. (2005) Investigations in environmental science: A case-based approach to the study of environmental systems. Armonk, NY: It's About Time Publishing.

This is the high-school environmental science course for which SCDM (the decision-making model taught in this course) was developed. It was developed and researched through Northwestern University in Chicago.

Edelson, Daniel C; Tarnoff, Adam; Schwille, Kathleen; Bruozas, Meridith; Switzer, Anna. Learning to Make Systematic Decisions The Science Teacher; Washington Vol. 73, Iss. 4, (Apr/May 2006): 40-45.

This text provides a good overview of the SCDM process. It also includes authentic student examples of many of the charts/diagrams/tools used in the course. The pdf is included in the course "tool-kit".

Pearlman, Steven J. America's Critical Thinking Crisis: The Failure and Promise of Education (2020) Paperback ISBN: 978-1-73594222-0-9. eBook ISBN: 978-1-7359422-1-6 CriticalThinkingCrisis.com

This book is read by 500-level students only. It provides a much larger context for considering the importance of teaching decision-making skills.

Switzer, Anne, C. Assessing Changes in High School Students' Environmental Decision-making Skills: Some Methodological Contributions, University of Michigan ProQuest Dissertations Publishing, 2009.

This is the main text for the course. Note that teachers will not be reading the entire dissertation; they will mostly read contextual aspects and skip the nitty-gritty research details. Teachers are welcome to read any/all of it, of course. The pdf is included in the course "tool-kit".

Common Biases and Errors in Decision-Making

<https://harappa.education/harappa-diaries/decision-making-biases/>

This site names 5 additional decision-making biases that are explored in Lesson 7.

Resisting Scientific Misinformation

<https://tumblehomebooks.org/services/resisting-scientific-misinformation/>

This site contains a downloadable Teacher Guide and 5-lesson sequence for grades 6-12 on this important topic. The resources are available free of charge. The Teacher Guide is explored in Lesson 9, and the lessons are an option in Lesson 16.

Types of Decision-Making Biases (And How To Recognize Bias)

<https://www.indeed.com/career-advice/career-development/decision-making-biases>

This site names 9 common decision-making biases that are explored in Lesson 7.