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The Simple Four: Making Research Simpler for All with Information Literacy Models

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The Simple Four: Making Research Simpler for All with Information Literacy Models

Jessica Kohout-Taylor, Ed.D.
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Background

- Started as Librarian at the elementary level and moved to middle level
- Recently moved to Clemson University Libraries from middle school in Midlands
- Always been interested in the Simple Four Model





Learning Outcomes

By the end of the session, you will be able to:

- Identify information literacy models in order to use in your instruction
- Explain potential benefits and challenges with using information literacy models in your classroom libraries
- Describe how you could implement the Simple Four or other model into their instruction or conduct a similar study

Information
Literacy or
Research
Models



Many more out there!

Big 6 model

Super 3
model

I-LEARN
model

PLUS
model

BAT model

Simple Four
model



Big6

By Mike Eisenberg and Bob Berkowitz (1990)

- Six stages
 - Task Definition
 - Information Seeking Strategies
 - Location and Access
 - Use of Information
 - Synthesis
 - Evaluation

Super3

- Has same elements as Big6
- Meant for younger students
 - Plan
 - Do
 - Review



I-LEARN Model

- Delia Neuman (2011)
- 5 stages
 - Identify
 - Locate
 - Evaluate
 - Apply
 - Reflect

Preparing: reading,
constructing

Searching: planning,
defining, finding,
gathering, evaluating,
keywords, images

**Using: interpreting,
integrating, referencing,
presenting**

PSU Model

- ValerieNesset(2013)
- Instructors and advanced students
- Actions, affective behaviors, impact factors, learning, reflection
 - Preparing
 - Searching
 - Using

BAT Model



(Image from

<https://www.sciencedirect.com/science/article/pii/S0740818813000091#f0010>)

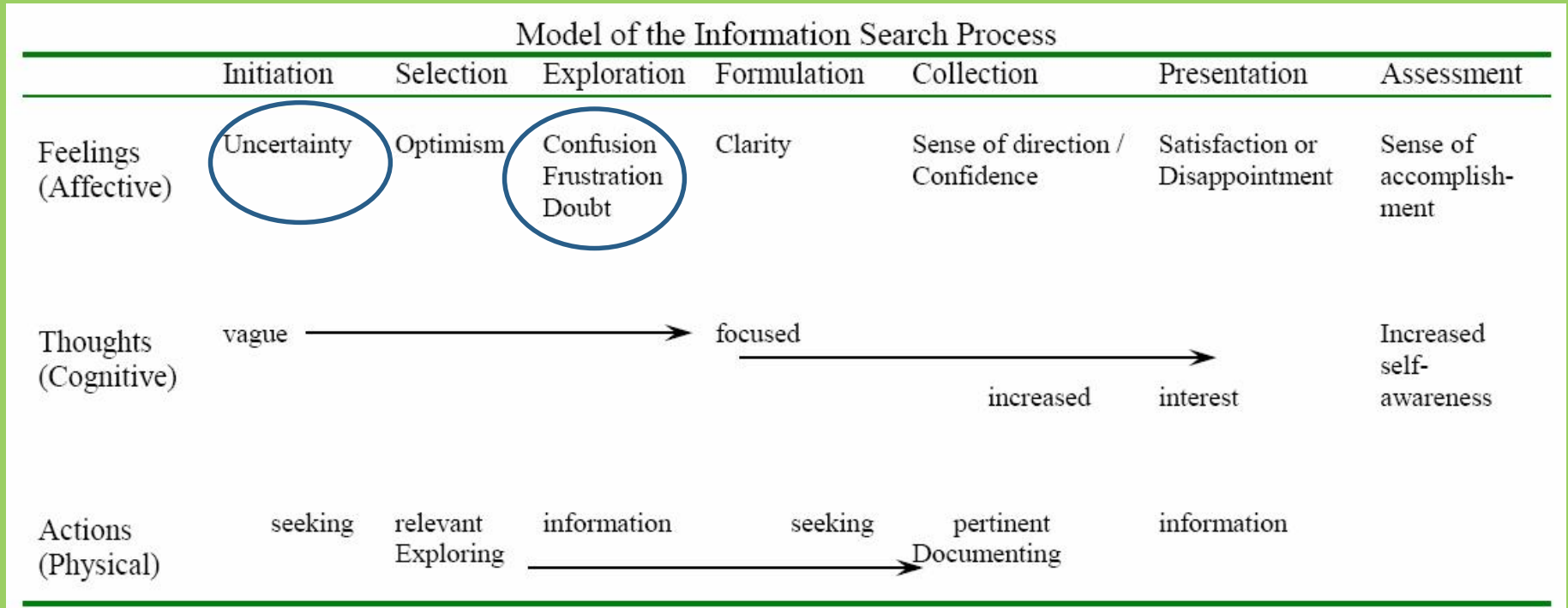
- Valerie Nasset (2013)
- Simplified PSU model
- 3 stages
 - Beginning
 - Acting
 - Telling
- Visual representation of a bat for students to follow



PLUS Model

- James Herring (1996)
- 4 stages
 - Identify Purpose
 - Locate relevant sources
 - Use ideas and information effectively
 - Self-evaluate

Kuhlthau's Information Search Process or ISP (1989) model



(image from <http://wp.comminfo.rutgers.edu/ckuhlthau/information-search-process/>)



Simple Four Model

- 4 stages
 - Plan
 - Act
 - Organize
 - Reflect
- Questions for students to answer
- <https://sites.google.com/site/marthaalewine/thefour>

Step 1: PLAN: Students should ask themselves such questions as:

- What do I need to do?
- What's my assignment? What's my research topic?
- What information do I need to answer my question? What information do I need for my research topic?
- *(Planning means that students are engaging the topic or assignment and deciding what they want to know about the topic and /or information they need for their assignment.)*

Step 2: ACT: Students should ask themselves such questions as:

- Where can I find the information I need to answer my question or for my research topic?
- Which information source(s) will be the most helpful in answering my question? Which information source(s) will be the most helpful for my research topic?
- What search strategy will work best for each information source (e.g., book, online encyclopedia, web site)?
- Now that I've found some information what do I do with it?
- How do I decide what I need from everything I've found?
- How do I investigate all these resources to make a decision about what I need?
- *(As students ACT on their plan, they must prioritize their list of possible sources of information, find those resources, engage the resources to extract the relevant information and then evaluate the information for credibility, authority, and relations to the topic or assignment.)*

Step 3: ORGANIZE: Students should ask themselves such questions as:

- How can I put my information together to show that I answered my question?
- How can I show what I learned?
- How do I document all the information sources I used?
- *(When students ORGANIZE their information, they are making decisions about that information and their assignment or research topic. During this phase, students will write their report, create their multimedia presentation, complete the assignment, and submit their work. During this phase students must demonstrate what they learned.)*

Step 4: REFLECT: Students should ask themselves such questions as:

- How will I know if I answered my question?
- How will I know if I did my job well?
- *(When students REFLECT on their work, they are evaluating their product as well as their research process. During this phase, students' work may be submitted for peer review. Also during this phase, the teacher and/or library media specialist will reflect on the students' work and using a grading rubric, evaluate the students' work for assigning a grade.)*



- Scaffold for students
- Not linear, iterative process
- Higher order and critical thinking skills



-All models have their limitations



What information literacy model do you use or have used in the past?

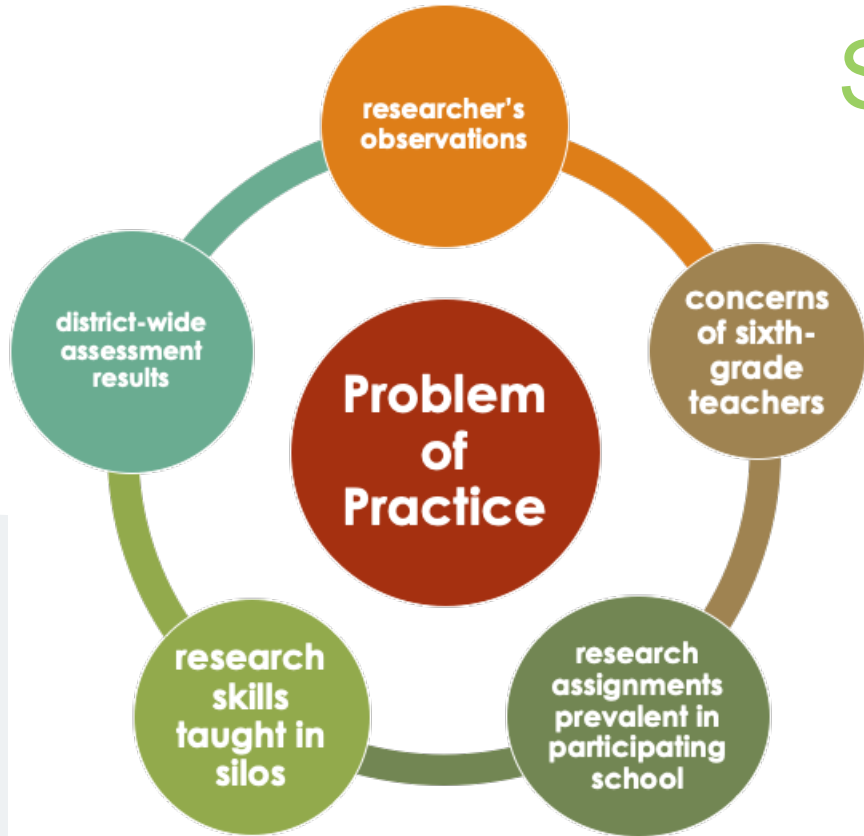
Go to [menti.com](https://www.menti.com) and enter code 26 58 36





The Study

Student Needs



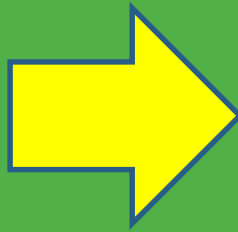
Macro and Micro Level

- Students not prepared for demands of higher education and jobs (Katz, 2007; Raish & Rimland, 2016; Saunders, Severyn, & Caron, 2017; Marlejš Stec, & Kwon, 2014)
- District-wide assessment results
- 6th grade teacher concerns
- Observations
- Research skills often taught in silos
- Research assignments prevalent in almost all classes/subjects
- No model was used at school

Results for 5th Grade Students at Feeder Schools –Research and Information Fluency Standard (ISTE)

2007:

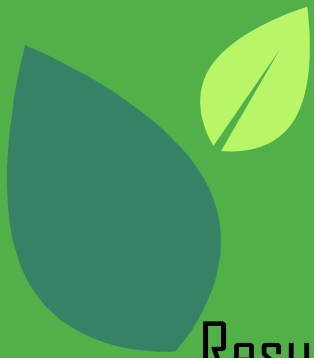
- 3a. Plan strategies to guide inquiry
- 3b. Locate, organize, evaluate, synthesize, and ethically use information from a variety of sources and media.



2016:

- 3a. Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.
- 3b. Students evaluate the accuracy, perspective, credibility, and relevance of information, media, data or other resources.

86.85% 86.14% 86.0% proficiency



Results for 8th Grade Students at Local School

Below Basic	Basic	Proficient	Advanced	Student Total
7	151	96	51	301



Standard Assessed (ISTE 2007)	Highest Score Possible	School Average	District Average
3a. Plan strategies to guide inquiry.	3	1.61	1.45
3b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.	3	1.46	1.37
3c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.	3	2.05	1.87
3d. Process data and report results.	3	2.14	1.9

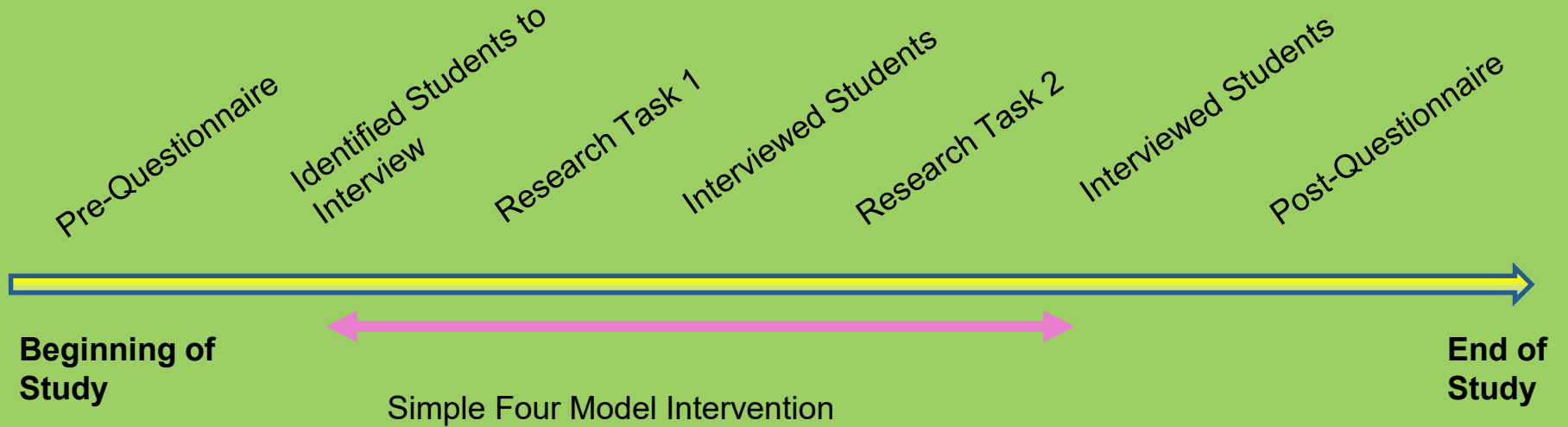


Information
Seeking
Behavior of 6th-
Grade Students

Simple Four Model

Confidence
and Anxiety
Levels of
6th-Grade
Students

Timeline - Over 6 Weeks





The Simple Four: Plan, Act, Organize Reflect

Form description

Developing a Plan!

In this stage, planning means that you are thinking about the topic or assignment and deciding what you know about the topic; what you want/need to know about the topic; and what information you need about your topic to complete your assignment or research project.

-What is your teacher asking you to do?

Long answer text

-What do you already know about your topic?

Long answer text

-What sources (books, websites, notes, etc.) might help you with your research?

Long answer text

Intervention

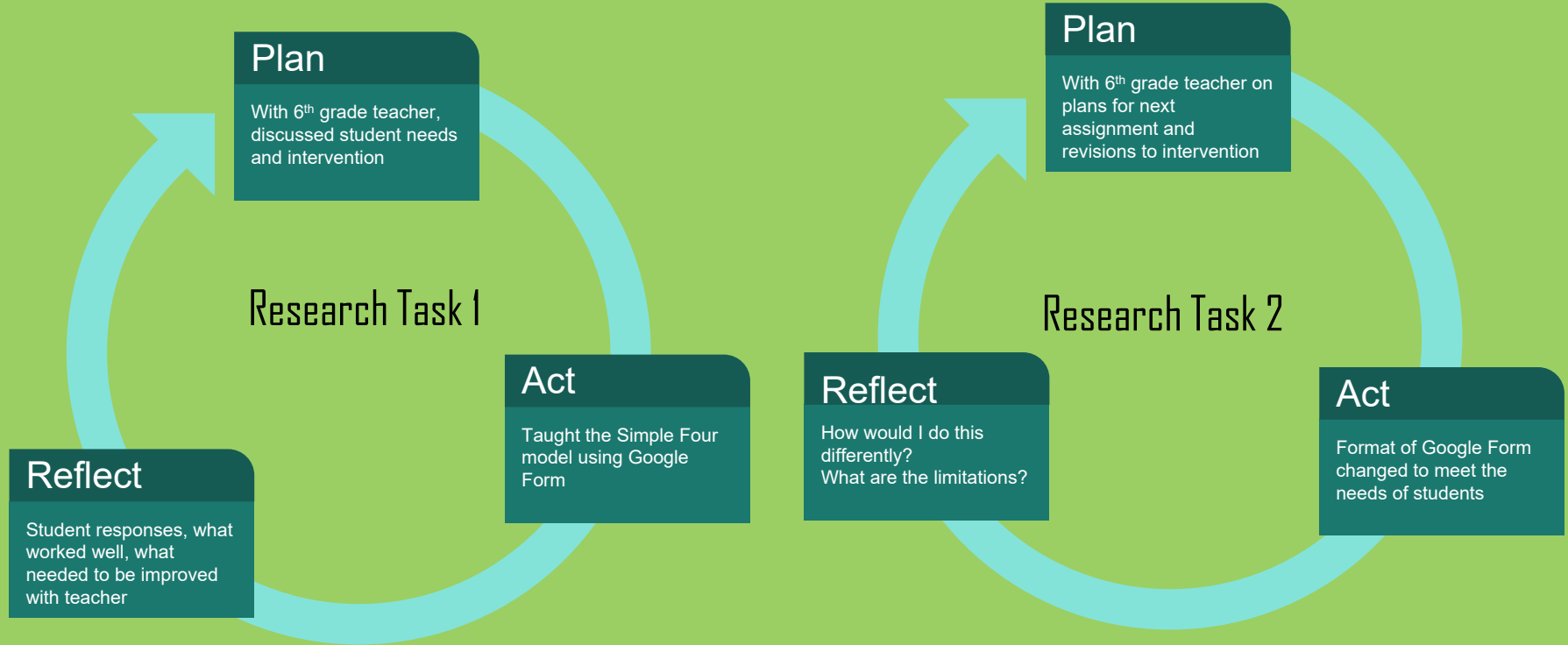
- Taught Simple Four model during research tasks
- Paper Graphic Organizer
- Asked students to complete a [Google Form](#) that mirrored the model



Data Collection Instruments

- Pre-Questionnaires
- Post-Questionnaires
- Interviews
- Student observations as field notes

Action Research





Questionnaires

- Pre- and post
- 12 questions in a Google Form
- Likert and Likert-type Scales
- Students to rate agreement statements and confidence statements about research process
- Post- included 6 statements about Simple Four

Findings

How did teaching model affect their information seeking behaviors?

Comparison of Self-Efficacy Statements

Self-Efficacy Statement	Pre-Questionnaire			Post-Questionnaire			
	M	Mdn	SD	M	Mdn	SD	Difference in Means
When given a research task, I know where to begin.	3.73	4	0.83	4	4	1.02	0.27
When given a research task, I know what to do next.	3.61	4	0.98	4.08	4	0.74	0.47
When given a research task, I know where to go to get information.	3.46	4	1.02	3.85	4	0.88	0.39
When given a research task, I think about whether or not a source is trustworthy.	3.77	4	1.07	3.62	4	1.17	-0.15
When given a research task, I think about how to organize all the new information I have gathered.	3.65	4	0.98	4.31	4	0.78	0.66
After I have completed a research task, I think about or reflect on what I would do differently next time.	3.62	4	0.90	3.88	4	0.91	0.26

Comparison of Self-Efficacy Sections

	M	Mdn	SD
Scores from Pre-Questionnaire	3.64	4	0.11
Scores from Post-Questionnaires	3.95	4	0.23

Statistical Analysis of Paired t-Test for Self-Efficacy

Hypothesis Test Results	Mean	Std. Err.	DF	T-Stat	P-value
Post-Questionnaire - Pre-Questionnaire	1.88	0.76	25	2.48	0.01

How did teaching the model affect their confidence?

Comparison of Confidence Questions

Confidence Question	Pre-Questionnaire			Post-Questionnaire			Difference in Means
	M	Mdn	SD	M	Mdn	SD	
How do you feel about the research process and all the steps you take when researching?	3.34	3	0.85	3.35	3	0.85	0.01
When given a research task, I know what to do next.	2.88	3	0.91	2.88	3	0.91	--
When given a research task, I know where to go to get information.	3.19	3	0.98	3.19	3	0.98	--

Comparison of Confidence Sections

	M	Mdn	SD
Scores from Pre-Questionnaire	3.14	3	0.23
Scores from Post-Questionnaires	3.14	3	0.24

Statistical Analysis of Paired t-Test for Confidence

Hypothesis Test Results	Mean	Std. Err.	DF	T-Stat	P-value
Difference					
Post-Questionnaire -Pre-Questionnaire	0.85	0.43	25	1.96	0.03

How did teaching the model affect their anxiety?

Comparison of Anxiety Statements

Anxiety Statement	Pre-Questionnaire			Post-Questionnaire			
	M	Mdn	SD	M	Mdn	SD	Difference in Means
I feel anxious or nervous when my teachers ask me to research a topic.	3.31	3	1.26	2.85	3	1.38	-0.46
I feel anxious or nervous when my teachers give me a research assignment.	2.57	3	1.24	2.84	3	1.41	0.27
I think that researching is difficult.	3.08	3	0.98	3.01	3	0.98	-0.07

Comparison of Anxiety Sections

	M	Mdn	SD
Scores from Pre-Questionnaire	2.98	3	0.38
Scores from Post-Questionnaires	2.9	3	0.10

Statistical Analysis of Paired t-Test for Anxiety

Hypothesis Test Results	Mean	Std. Err.	DF	T-Stat	P-value
Difference Post-Questionnaire -Pre-Questionnaire	-0.53	1.07	25	-0.50	0.31

The Simple Four Feedback

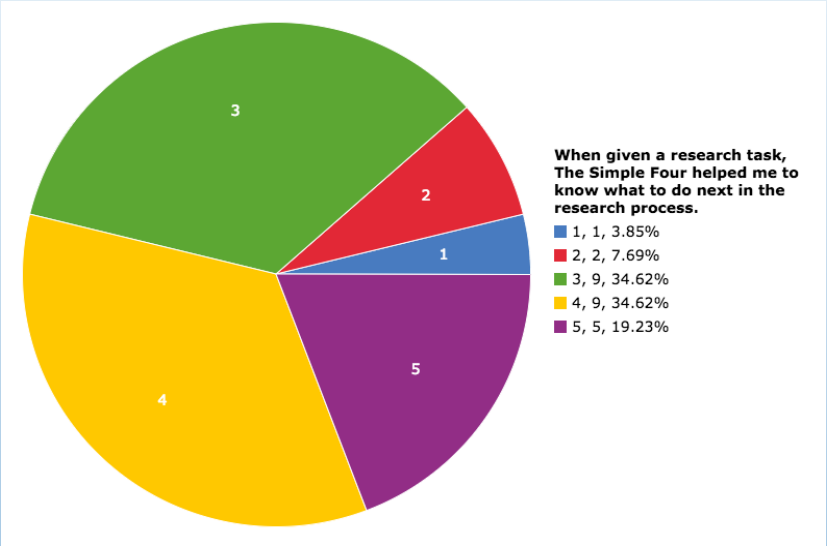
Measures of Central Tendency for Simple Four Statements

The Simple Four Statements	M	Mdn	SD
The Simple Four made research easier.	3.27	3	1.12
When given a research task, the Simple Four helped me to know where to begin.	3.46	3.5	1.02
When given a research task, the Simple Four helped me to know what to do next in the research process.	3.57	4	1.03
When given a research task, the Simple Four helped me to think about using sources that are trustworthy.	3.38	3	1.02
The Simple Four helped me to not feel anxious or nervous when my teacher asked me to research a topic.	2.88	3	1.03
The Simple Four helped me to feel more confident when my teacher asked me to research a topic.	3.15	3	0.97

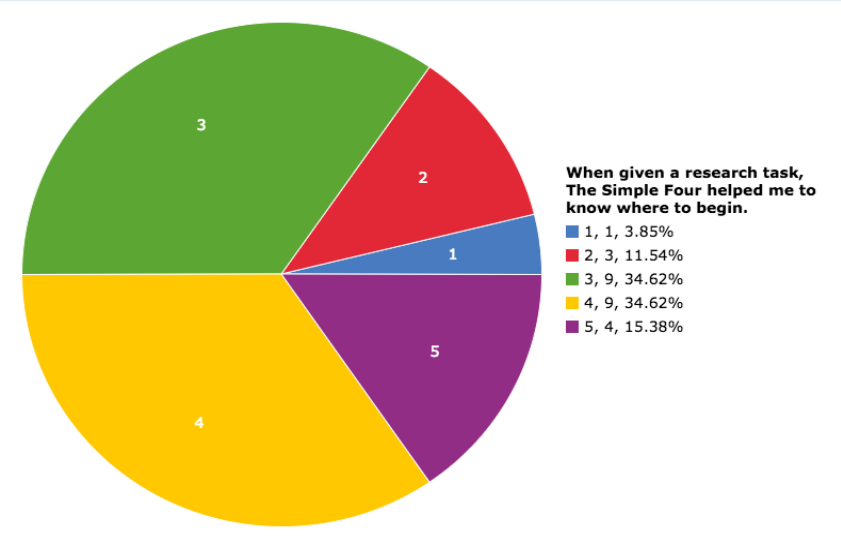
Measures of Central Tendency for Simple Four Section

Section	M	Mdn	SD
Simple Four	3.29	3.32	0.25

The Simple Four Feedback



Responses for “when given a research task, the Simple Four helped me to know what to do next in the research process”



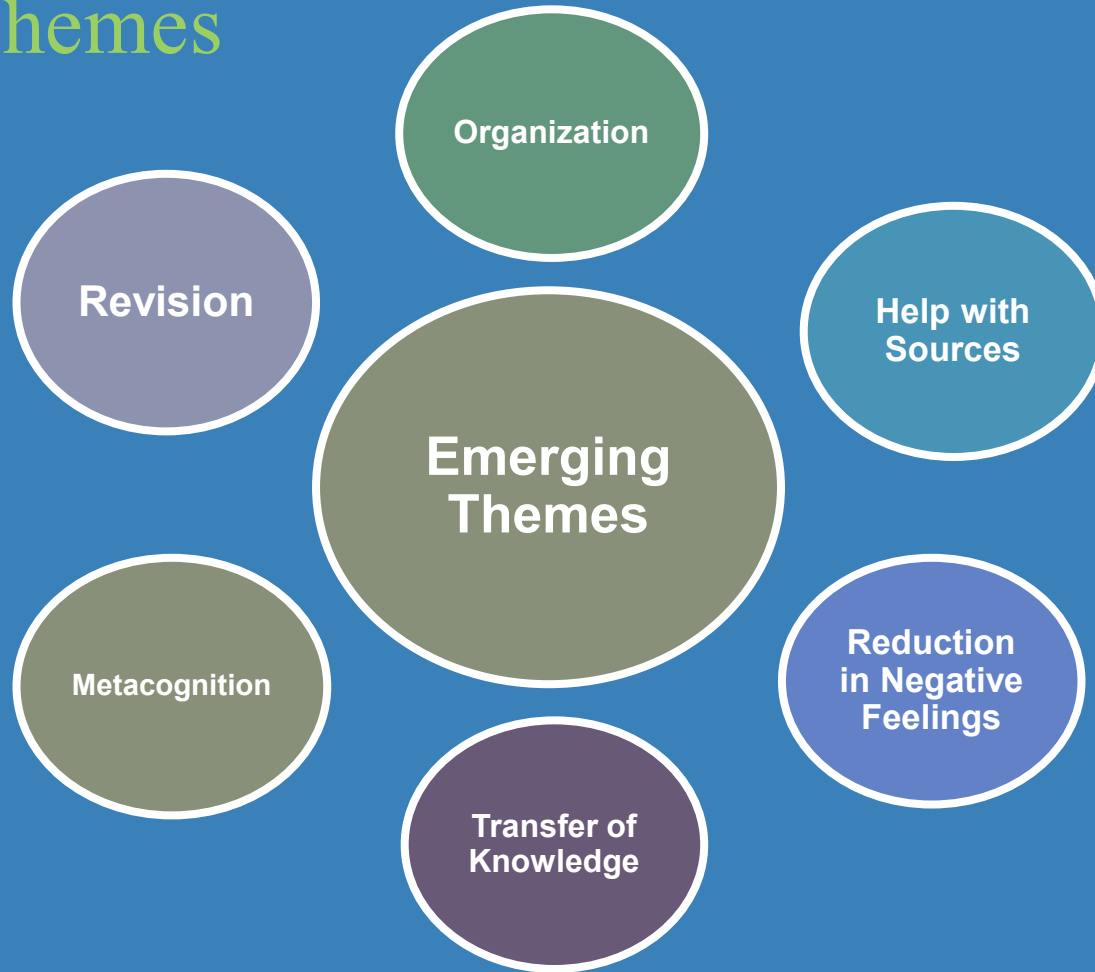
Responses for “when given a research task, the Simple Four helped me to know where to begin”



Interviews and Field Notes

- Selected students to be interviewed by lowest scores in self-efficacy, confidence, and anxiety scores from pre questionnaire
- Interviewed 17 students
- Made 11 observations

Emerging Themes



Limitations


- One class at one school
- Limited time frame
- Cannot be generalized
- Feedback from students
- Barriers of absences and time constraints
- Acquisition of skills over time

Implications

- Teacher requested Google Form because students said they found helpful
- More research needs to be done
 - Work more closely with classroom teacher throughout year
 - Other classes
 - Use of other technology



Discussion

- 
- A decorative graphic on the left side of the slide. It features a large, detailed green leaf with prominent veins in the center, a smaller solid green leaf to its left, and two light blue circles, one at the top and one at the bottom left.
- If you use a model, what has worked well for you?
 - What are some benefits you have seen? Challenges?
 - What are some lessons you've learned that could help us?
 - How could you implement a model if you are not already doing so?



Questions?

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