Supporting Strategic Writers: An Innovative Instructional Approach to Developmental Writing

Workshop at NADE 2019

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How can we teach writing strategies so that students will actually use them?

Most instructors of developmental writing classes want their students to learn strategies for planning, revising, and editing. The challenge is to teach writing strategies in a way that provides the knowledge and motivation for students to use them independently on a variety of writing tasks in future classes.

Supporting Strategic Writers **(SSW)** is an instructional program for developmental writing based on self-regulated strategy instruction. Students learn strategies for planning, drafting, and revising compositions with an emphasis on using knowledge of genres to guide planning and evaluation. A strong emphasis is placed on learning to self-evaluate through analysis of model texts, modeling and practice in applying rubrics, and peer review. Optionally, students also learn critical reading strategies for selecting, comprehending, summarizing, and using sources in their own essays. In addition to writing strategies, students learn strategies for self-regulation, including goal setting, task management, progress monitoring, and reflection. The instruction engages learners in a process of reflection through the use of journals in which they write about their goals, strategies, challenges, and progress. A consistent instructional sequence is followed with discussion of genre, think-aloud modeling, collaborative and guided practice, and preparation for peer review.

The curriculum was developed in collaboration with community college faculty in a three-year project funded by the U.S. Department of Education. Based on the positive results of that study, a five-year study was funded to provide rigorous research on the SSW program. Two experimental studies have found strong effects on the quality of student writing and motivation compared to typical instruction. The first study included 13 instructors and 275 students in two colleges and the second included 19 instructors and 207 students. In both studies, on the posttest measure of writing quality, the average student in the treatment group performed above the 90th percentile of the control group. Students in treatment classes also made greater gains in motivation. The project is currently evaluating versions of the curriculum that include writing using sources. We are also planning follow-up evaluation of the effects on success in future classes and completion of degree programs.

We are recruiting community colleges for further research. Materials and professional development will be provided, and faculty will be compensated. In the near future, we plan to have materials and professional development available outside of the research context. For further information, contact Charles MacArthur at the University of Delaware: macarthu@udel.edu

The following pages include sample essays and comments on the program from student journals. After that, you will find the slides from the presentation and an article for use in the workshop.

Supporting Strategic Writers: An Innovative Instructional Approach for Developmental Writing

NATIONAL ASSOCIATION OF DEVELOPMENTAL EDUCATION
MARCH 2019

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RESEARCH REPORTED IN THIS ARTICLE WAS SUPPORTED BY THE INSTITUTE FOR EDUCATION SCIENCE, U.S. DEPARTMENT OF EDUCATION, GRANT R305A160242. THE OPINIONS EXPRESSED ARE THOSE OF THE AUTHORS.

Supporting Strategic Writers

- SSW is an instructional program for developmental writing based on self-regulated strategy instruction.
  - Students learn strategies for planning, evaluating, and revising essays based on genres.
  - They also learn strategies for critical reading and note-taking to support writing with sources.
- Strong emphasis on learning strategies for self-regulation – goal setting, task management, self-evaluation, reflection.
- Instructional methods include think-aloud modeling, collaborative practice, and peer review.
- Multiple instructional units are available across levels and genres.

Today's Workshop

- Overview of curriculum and research
  - Results of the research to date
  - Key principles of strategy instruction with self-regulation with examples from our curriculum
- Demonstration of key instructional components
  - Think-aloud modeling of planning strategies
  - A reading/writing strategy for summary-response
- Discussion and questions
  - Invitation to participate

Project History

- Design research – 2010-13
  - Collaborative work with CC faculty
  - 3 cycles of design, implementation, and revision
  - Large pre to post gains in writing and motivation
- Quasi-experimental study – 2012
  - Two colleges, 13 instructors, 276 students – 48% minority, 10% non-native English speakers.
  - Large effects on overall writing quality and motivation
- Rigorous experimental study – 2016-17: Next slides
- Current work on writing with sources
  - Strategy for writing summary-response papers to support critical reading and prepare for writing using sources

Experimental Study 2016-17: Participants

- Two community colleges: NC and MD
- 19 instructors – 10 treatment, 9 control
- 207 students:
  - 62% female
  - 57% minority (38% AfAm; 4% Asian; 9% Hisp; 2% NAm
  - 12% non-native English speakers (7% Spanish; 5% other)

Implementation

- Instruction for a full semester
- Treatment classes used SSW curriculum
- Control classes continued with typical instruction
- Professional development
  - Two-day workshop prior to semester
  - Coaching
  - Instructor's Guide and Student books

Outcome Measures

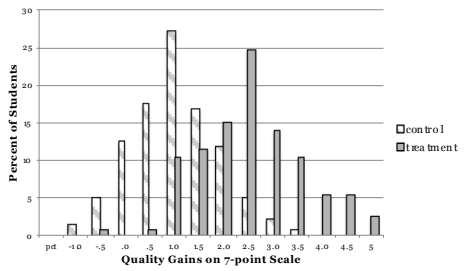
- Argumentative essays scored for quality, length, errors
- Motivation
  - Self-efficacy or confidence
  - Affect
  - Beliefs about writing
- Independent writing assessment - NAEP
- Accuplacer Reading posttest

Essay Quality

		Treatment M (SD)	Control M (SD)
Quality			
	Pretest	2.40 (0.91)	2.61 (0.76)
	Posttest	4.39 (1.04)	3.10 (1.14)
	Gain	1.98 (1.28)	0.51 (1.24)

- HLM analysis with covariates ($F(16) = 29.75$, $p < .0001$). ES, Glass's $\Delta = 1.75$.
- No interaction with site ($p > .45$).
- No significant difference in length ($p < .35$).

Quality Gains



Other Outcomes

- NAEP writing: Positive effect ($p < .01$, ES = .67)
  - Treatment: M = 3.21
  - Control: M = 2.76
  - National sample of grade 12 students, M = 3.74
- Motivation
  - Large effects on self-efficacy (confidence), including efficacy for writing, grammar, and self-regulation (ES .36 - .50)
  - Significant positive effects on affect and beliefs about the importance of content in writing.

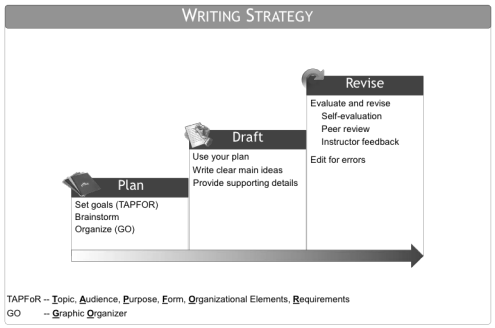
Strategy Instruction & SSW

Key Questions about Self-Regulated Strategy Instruction

- What strategies should we teach?
  - Writing processes – planning, drafting, revising
  - Reading comprehension strategies
  - Genres, or text types
- How can we support flexible, independent use?
  - Self-regulation strategies
- How can we teach strategies?
  - Explicit explanation & modeling
  - Collaborative & scaffolded practice

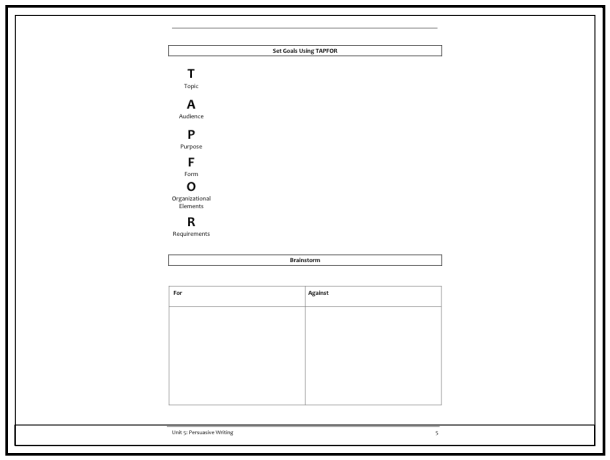
What Strategies to Teach?

- Writing and reading strategies integrate knowledge of genre with processes.
  - Planning strategies – Use genre knowledge to set goals, generate content, and organize
  - Evaluating/revising strategies – Use genre-specific evaluation criteria
  - Reading comprehension – Use genre knowledge to identify key ideas
- Units focused on a genre
  - E.g., personal narrative based on *This I Believe* series on NPR
  - E.g., argumentative essay with counterargument



Elements of Argumentative Writing

- Introduction
  - Issue: What is the issue? Why is it important?
  - Position/Thesis: What is your position?
- Reasons 2-4
  - Clear reason: Give a reason for your position
  - Supporting Evidence: Support your reasons with facts, examples, and explanations.
- Opposing Reason and Rebuttal Essay
  - Opposing reason: What does the other side have to say?
  - Evidence for opposing reason: Give facts, examples, or explanations.
  - Rebuttal: Say why you disagree. Give your reasons.
- Conclusion
  - Re-state position: Tell what your position is again.
  - Finish with a strong point: Leave the reader with something to think about.



Set Goals Using TAPFOR

T Topic

A Audience

P Purpose

F Form

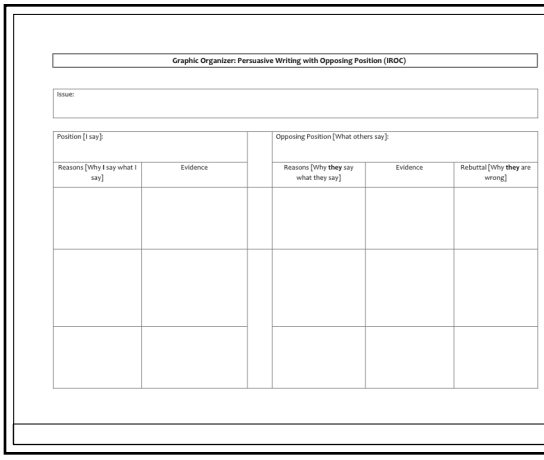
O Organizational Elements

R Requirements

Brainstorm

For	Against

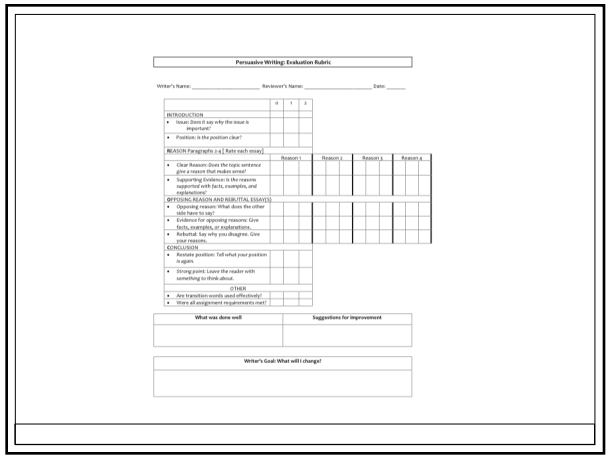
Unit 5: Persuasive Writing 5



Graphic Organizer: Persuasive Writing with Opposing Position (IROC)

Issue:

Position [I say]:			Opposing Position [What others say]:		
Reasons [Why **I** say what I say]	Evidence		Reasons [Why **they** say what they say]	Evidence	Rebuttal [Why **they** are wrong]



Persuasive Writing: Evaluation Rubric

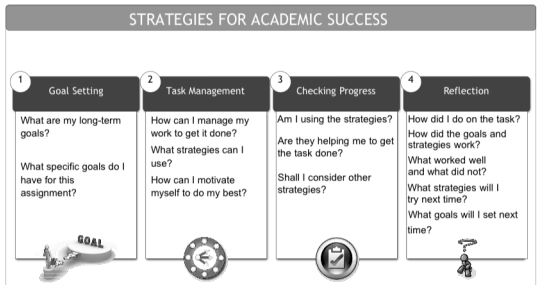
Writer's Name: _____ Reviewer's Name: _____ Date: _____

	0	1	2
INTRODUCTION			
• Issue: Does it say why the issue is important?			
• Position: Is the position clear?			
REASON Paragraphs 2-4 [Rate each essay]			
	Reason 1	Reason 2	Reason 3	Reason 4
• Clear Reason: Does the topic sentence give a reason that makes sense?				
• Supporting Evidence: Is the reasons supported with facts, examples, and explanations?				
OPPOSING REASON AND REBUTTAL ESSAY(S)				
• Opposing reason: What does the other side have to say?				
• Evidence for opposing reasons: Give facts, examples, or explanations.				
• Rebuttal: Say why you disagree. Give your reasons.				
CONCLUSION			
• Restate position: Tell what your position is again.			
• Strong point: Leave the reader with something to think about.			
OTHER			
• Are transition words used effectively?			
• Were all assignment requirements met?			

What was done well	Suggestions for improvement

Writer's Goal: What will I change?

How to Support Self-Regulation?



How to Teach Strategies: Our Instructional Sequence

1. Introduce the genre
   - Discuss the purpose
2. Analyze good and weak examples
   - Discuss the good model, drawing out the genre elements
   - Apply genre-specific evaluation criteria to model
   - Apply evaluation criteria to weak example and discuss improvement

Sequence (cont.)

3. Explain and model the strategy using think-alouds
   - Explain the strategy steps
   - Apply the strategy yourself to plan, draft, and revise a paper – thinking aloud.
   - This observation of actual writing is critical
4. Collaborative practice or joint construction
   - Instructor and students together plan, draft, and evaluate a paper.

Sequence (cont.)

5. Guided practice
6. Peer review
   - Prepare via collaborative evaluation of papers by unknown peers using genre criteria
   - Peer review in pairs or small groups with accountability
7. Support self-regulation throughout; teach to mastery
   - Journal entries and class discussion support use of the self-regulation strategies

Questions

Supporting Strategic Writers

Samples of Student Work

A Sample of a Pretest and Posttest from One Student

2012155-Pretest

In the year 2012 almost every college student has a cell phone. Cell phones have become part of our culture and way of communication. Many college professors have decided to ban the use of cell phones because it disrupts their class. I disagree with statement; it seems as if cell phones have become a necessity and assist during learning. I also believe a cell phone can be helpful during a emergency. Overall cell phones should be allowed in class.

One may ask, why has the cell phone become a necessity? The reason is that we use our cell phones when we are in trouble. Lets just say you are in class and your essay due that day is in your dorm. You can call your roommate to bring it to you. This solves the problem in a matter of seconds. Also one may use there phone to find a friend after class. Without cell phones our lives will be much harder. Also did you know that the government has a cell phone company? The US government provides phones to those who need them. Everyone knows that the government only provides necessary items.

In addition a cell phone can assist during learning. Nowadays almost everyone has a smart phone. Many apps have textbooks on them and other information that may help them. Also many people like myself use there phones as a planner. A cell phone can be helpful when one may need to do research. You can use a smart phone to go online and to look up information in a matter of seconds. My high school teachers let me use my cell phone. When I had to do research for my senior paper. Lastly, a cell phone can be used when taking notes and can be helpful to the student.

2022155 - Posttest

Online Classes: A student's problem or a solution?

Many colleges and universities across the United States are offering writing courses online. A lot of students like the option to take classes online because it can help manage a student's time better. These classes give students the opportunity to take the class whenever they want at any time of day. In addition many of the students who take these classes never meet face to face with their professor. Some students may prefer to take the writing class online whereas others oppose the idea. I believe that students should not be allowed to take writing courses online.

Many students who take writing courses online fail to have human interaction in an academic setting. I think human interaction is important especially in an educational setting. Meeting in person with a professor two or three times a week can be valuable to a student. Many students may need to ask questions about a paper coming up, and having your professor right in front of you is more convenient than having to email them about a question. In addition to a student asking questions, it is important to see the questions that other students may have as well. Interaction in academic setting is beneficial to a student.

My professors always tell me that "there is no such thing as a stupid question, and chances are another person in the room has the same exact one". If a student takes a class online they may not have the opportunity to ask questions and see what other student's questions are. I also believe that taking a class online is lacking interaction with fellow students in terms of the course. This semester during my writing class I had the opportunity to do four peer reviews for all of my papers in the course. This gave me the opportunity to get one on one feedback from a fellow student, and it helped me get better ideas for my paper. In all having human interaction in academic settings is beneficial to students.

The second reason why I believe writing courses should not be taught online is because; students may lose time management skills that they get by simply attending classes. I believe that one of the hardest things to do in college is to show up to class. Showing up to class can be very challenging especially if your course is at 8 A.M; however, I believe that attending classes in person can teach students responsibility. In the real world people need to wake very early to go to work. If a person shows up or simply does not go to work at all they will get in trouble by their boss. I believe the same thing with attending college classes. Waking up in the morning to attend a class can teach a student how to be responsible, and it will prepare them for the real world. Taking writing courses online fails to do this because students can take the course whenever they want, and they may lose important time management skills that are needed to succeed in the real world.

The third reason writing courses should not be taught online is the fact that online classes offer a poor quality education. Throughout my academic career I have had to do many assignments online, one of them being this semester in my college English class. The program that we used was called My Writing Lab. The way the program worked is that students were required to watch a video and do activities on a given grammar topic. At the end of each activity we were required to take a post test. Each student was required to complete thirty activities at the end of the semester. I had a difficult time with the program, and I was more focused on passing each test than learning the material. I believe that taking class's online puts a student in setting were they may receive a poor education. My experience in My Writing Lab has showed me that education can only occur in one place, and that is a classroom. Students who take classes online may be more focused on completing the class than learning the material.

Some people may argue that taking a course online helps a student manage their time better. They argue that students can take the course whenever they want, and they can focus on attending other courses. I disagree simply attending a course can help a student manage their time. I believe that college is all about managing ones time, and attending class everyday can show a great deal of time management. A lot of students may need to balance their class schedule with everything else. Some students may even need to take night classes. I think that taking classes online fails to show that it can help a student manage their time. Students who take course online can choose to take them whenever they want. That means that a student can wake up at any point of the day, and simply take their course. I believe that waking at 1:00 P.M and taking a course may show laziness instead of time management. It is important for college students to work around their schedules to attend a class.

In conclusion, all writing courses should be taught in a classroom. It has been said that writing is the most important class a student will take in college. Many students are required to write important papers for other courses within their major. I think that the skills a student gains in writing class can be beneficial throughout a student's college career. Writing classes being online will not give a student human interaction with their professor and fellow students. This

may cause students to not gain the same skills as a student who took the course in a classroom. In addition I believe that attending classes gives students a sense of responsibility that is needed throughout college and life. Furthermore, it is important for a student to take class in person and not online.

Selected Entries from Student Journals on Self-Regulation and Strategies

"All my teachers did [in high school] was go over the same material and the same rules over and over *without any regards to how my mind is processing this information."* [emphasis added]

"This writing strategy helped reduce the stress I feel when I write. When I started writing without the strategy, I feel rushed to get my ideas onto the page, and when I go back, my paper's topic wouldn't be clear."

"Now that I have a strategy before writing, I feel a lot more confident in my papers, and I am expecting my grade to reflect this new feeling that I have."

"I found it [the graphic organizer] difficult for me because I was trying to figure out what main ideas to put in my essay and then I had to figure out how to make them all connect. So it was a little difficult. Once I finished making it though, I found that it really helped me into writing my paper."

"Once you have your tasks and your plan or strategy set, you will be more likely to stay focused on completing your tasks, and follow your plan. This is because it's your strategy, and you know what tasks need to be done, and how to do them."

"If you use a strategy, you will notice a difference in your daily routine. You will begin to become more energized and motivated to get more things completed, your grades will increase, and as a whole the outcome of using a strategy will improve your success greatly."

"Previous to the graphic organizer, I thought this was going to be another paper that I had no idea how to write and just another average grade [sic]. For the first time in my college career, *I felt inspired and motivated to write a paper*. [emphasis added] I was excited to write this paper because I knew what I was talking about from brainstorming and organizing."

"Without using the strategy I realized that I would not be able to manage my tasks and check my progress on an assignment. *This could cause confusion and allowed me to easily give up on what I was tring to achieve… just like it did to me prior to college."* [emphasis added]

"…I will carry this [use of a strategy] with me for the rest of my life."

Fake News is Still a Problem. Is AI the Solution?

Human fact-checkers can't keep up with the flood of fraudulent stories, images, and videos.

by David Cox, NBC News

Feb. 15, 2018

Fake news is fueled in part by advances in technology — from bots that automatically fabricate headlines and entire stories to computer software that synthesizes Donald Trump's voice and makes him read tweets to a new video editing app that makes it possible to create authentic-looking videos in which one person's face is stitched onto another person's body.

But technology, in the form of artificial intelligence, may also be the key to solving the fake news problem — which has rocked the American political system and led some to doubt the veracity even of reports from long-trusted media outlets.

Experts say AI systems would help fill the gaps left by Snopes, Truth or Fiction, and other online fact-checking outlets, whose human fact-checkers lack the bandwidth to evaluate every article that appears online. These systems could also work with various fake news alert plugins available from Google's web store, such as the browser extension This is Fake, which uses a red banner to flag debunked news stories on your Facebook newsfeed.

"All of the current systems for tracking fake news are manual, and this is something we need to change as the earlier you can highlight that a story is fake, the easier it is to prevent it going viral," says Delip Rao, founder of the San Francisco-based AI research company Joostware and organizer of the Fake News Challenge, a competition set up within the AI community to foster development of tools that can reliably spot fake content.

FIGHTING THE FAKERS

At last month's World Economic Summit in Davos, Switzerland, Google and Facebook announced plans to develop AI systems that would notify users about dubious content. Google has floated the idea of a "misinformation detector" browser extension that would alert users if they land on a link deemed untrustworthy.

But while these plans have yet to be put into action, an Israeli startup company called AdVerif.ai has already begun fighting back against the fakers.

"There are reports which are predicting that within three to four years, people in advanced economies will consume more false content than true content, which is really mind-blowing," says company founder Or Levi. "But because a lot of this content is recycled and repeated in different ways, we believe we can use AI to pinpoint trends which detect it as being fake."

In November, AdVerif.ai launched an AI-based algorithm that the company claims can identify fraudulent stories with an accuracy approaching 90 percent. The algorithm's development has been bankrolled by advertising networks across the U.S. and Europe, with major brands like Adidas and Nike keen to avoid being associated with fake news.

The company intends to launch a browser plug-in that would display a pop-up warning if you landed on a suspect story.

To develop its algorithm, AdVerif.ai fed it thousands of news stories, legitimate as well as fraudulent. Fraudulent stories tend to differ in subtle ways, including their heavy use of adverbs and adjectives as

well as slang, simple sentence structures, and relatively few commas and quotations. The algorithm was trained to spot these psycholinguistic cues and render a judgment: fake or real.

But Levi says the algorithm isn't foolproof because it lacks the ability to assess the accuracy of purported facts within articles.

"Right now, a story could say that New York is the capital of Uganda and the algorithm may not flag it because it doesn't have a database of common facts," Levi says. "Current forms of AI can look at the style of the language, and the topic that the text is discussing, but it can't figure out the meaning behind statements."

This could change soon. The next version of AdVerif.ai will use natural language processing to verify assertions made in articles against trusted online content, like that published by Wikipedia and the World Bank eLibrary.

Levi acknowledges that Wikipedia isn't 100 percent reliable but says it's "accurate enough that it can have practical applications."

FAKE-VS.-REAL WARFARE

Even with AI systems that can check purported facts, fake news stories could slip by without being flagged. That's true in particular for stories that include opinions and other statements that defy easy assessment.

"Right now machines cannot evaluate more complicated statements, ones which you cannot quantify," Rao says. "Statements like 'Trump is the best U.S. president' can't easily be measured, so it's very hard for AI to compute whether they're true or false."

The latest breed of image and video manipulation tools further complicates the task facing AI researchers.

"The problem we have is that the same AI tools which are allowing us to fight fake news are also allowing the fakers to create content which is ever more difficult to separate from reality," Rao says.

Levi thinks cyberspace will soon become a battleground of competing intelligent systems — some creating fake media and others searching for the subtle cues that mark it as such.

AI experts are grappling with ways to identify fake photos, and identifying fake videos is even more challenging. "These latest apps have left the AI community playing catch-up," Levi says of the tools used by the creators of fraudulent images and videos.

Ultimately, Levi believes artificial intelligence may effectively neutralize the threat posed by fake news. But he's unsure when that day will come.

"It's an information arms race, and AI will definitely provide us with some tools to help," he says. "But at the end of the day, the onus will probably always be on humans to use their own intuition to decide whether something is true or not."

Reference:

Cox, David. "Fake news is still a problem. Is AI the solution?" *NBCnews MACH*, NBC News, 15 Feb. 2018. Retrieved May 4, 2018 from https://www.nbcnews.com/mach/science/fake-news-still-problem-ai-solution-ncna848276.