Title of Grant: Workshop on Teaching Critical Thinking Across the Curriculum

Grant ID: S2013-141W-FF

Name: Karyn Pallay

College: J. Sargeant Reynolds Community College

Email: kpallay@reynolds.edu

Abstract: The workshop on teaching critical thinking across the curriculum will provide specific methods that VCCS faculty can use to enhance the critical thinking skills of college students. After an introduction to the fundamentals of critical thinking and the art of instruction, the focus will turn to analytic reading and writing as modes of thinking across the curriculum. The workshop facilitator will be a fellow of The Foundation for Critical Thinking, Dr. Enoch Hale, who has designed and presented over 130 workshops focused on various dimensions and applications of critical thinking for faculty and administrators, both nationally and internationally, and at all levels. His primary work focuses on infusing critical thinking into the curriculum, instruction, and classroom/organizational culture. The workshop will include faculty and staff from across academic disciplines at the grantee college and at least one other VCCS college.

Actual Outcomes:

The initial beneficiaries of the workshop were teaching faculty at participating colleges who learned important critical-thinking concepts and strategies for teaching them. Responses to sections 9 and 11 below develop further the potential beneficiaries of the workshop conducted.

Other Colleges: John Tyler Community College was the co-applicant. There were 38 workshop participants.

Discussion and Critique:

The Critical Thinking Workshop Evaluation offered participants the opportunity to provide “other comments.” Participants noted they learned “useful practices” and “concrete methods.” They found the material, in general, “practical,” “useful,” “interesting,” and “informative.” While these comments and the overall workshop evaluation rating of 8.2 suggests the workshop was a success, I think moving forward it will be important to provide a lot of opportunities for continue learning and discussion. When it comes to what might be changed, I probably would not repeat the same workshop, but would look at some of the other Foundation workshop titles to find other relevant spins on the framework that might add value. In addition, while bringing various disciplines together for a combined workshop was interesting, I can see, moving forward, the value in offering workshops that are discipline-specific.

Evaluation:

The workshop assessment tool was the Critical Thinking Workshop Evaluation completed by workshop participants. When it comes to whether the workshop achieved its stated goals, participants (a mix of JSRCC and JTCC faculty, administrators, visitors, and CT task force members) rated the workshop a 9.3 on a 10-point scale. Participants gave the overall workshop a rating of 8.2.
These ratings suggest the overall workshop was a success. Also telling are participant responses to questions about the workshop. To the question "what are some of the most important ideas you learned during this workshop," the following key words or concepts appeared in the responses two or more times:

- Paraphrasing—using or adapting the process (7)
- The 8 elements of thought (6)
- SEE-I reading activity (5)
- The intellectual standards (and their recursive nature) (4)
- Deconstructing the thinking process in order to learn how to teach it (4)
- Modalities of learning (4)
- Assigning students a central course question to tackle (3)
- Interrelation of the 8 elements of thought with the intellectual standards and intellectual traits (3)
- Explicitly teaching critical thinking (2)

There were also several additional individual responses. For example, “[p]osing questions that prompt clear critical thinking.”

Through the many small-group exercises, participants were able to internalize workshop content in such a way that they could articulate plans for classroom use. A compilation of responses to the workshop evaluation survey is available upon request.

**VCCS Benefits:**

Through the pilot that J. Sergeant Reynolds CC will conduct in the fall, faculty will get practice at teaching using the FCT (Foundation for Critical Thinking) framework. In addition, the college community will benefit as we work to “get the word out” by offering professional development opportunities. It is our hope that the workshop provided a foundation for developing a college-wide culture of teaching critical thinking. Ultimately, students should benefit from a greater emphasis on critical thinking across the curriculum. They should leave the college with an enhanced ability to think critically in the workplace and in upper level courses at their transfer institutions. Several workshop participants are committed to sharing FCT concepts with the broader college community. Opportunities for sharing include peer conferences, New Horizons, and the VCCA Conference.
**Title of Grant:** Keeping Current With Biotechnology: A Professional Development Seminar Series For Biological and Health Science VCCS Faculty

**Grant ID:** F2009-127W-PF

**Name:** Jeffrey Gillette

**College:** Virginia Western Community College

**Email:** jgillette@virginiawestern.edu

**Abstract:** Faculty who teach biological sciences must remain current in their disciplines. However, most scientific meetings and symposia are held long distances from most colleges in the VCCS system. I am proposing the establishment of a regular seminar series to be hosted by the college, which will feature presentations by area scholars.

**Actual Outcomes:** The primary beneficiaries of the seminar series will be the biological sciences faculty at the college and surrounding VCCS colleges. Invitations will be extended to faculty from Patrick Henry C.C., Danville, C.C., Central Virginia C.C., Dabney Lancaster C.C., and New River C.C. The seminar series will also be open to students from the college and students at any of the invited colleges. The seminar series will keep faculty updated on new findings and research techniques in the biomedical sciences presented by scholars who are performing cutting edge research. Faculty can then take this new information back into the classroom and incorporate it into their classroom and laboratory teaching and learning activities. All biological and health sciences faculty can benefit regardless of the subjects they teach since it is anticipated that speakers can present on subjects ranging from microbiology to biotechnology to medical or forensic sciences. Students will also benefit by being introduced to new topics and become exposed to faculty and programs from area four-year colleges and universities.

**Other Colleges:** Invited colleges were: Central Virginia, Patrick Henry, Dabney Lancaster, New River, and Danville. No faculty or students from any of the invited colleges attended the seminar. Refer to explanation under Section 11 “Critique of Research Project”.

**Discussion and Critique:** Even though students found the seminar difficult to understand in places, I would not have a future speaker alter the content of a seminar to make it easier for the students to understand. The reason for this is that the primary target group of the seminar is faculty, since the seminars are meant to be a continuing education tool for VCCS faculty. Students who intend to transfer to a four year college need to be exposed to the type of research that is conducted at these institutions. On the other hand, the seminar material should not be so difficult that students cannot understand any part of it, and hence “tune the speaker out”. Dr. Dalloul was able to excellently balance his presentation so that students and faculty could both come away from the seminar with valuable information. I hope this trend can continue in the future seminars.

I was disappointed that no faculty or students from any invited VCCS colleges were able to attend the seminar. Invitations and flyers were distributed to the biology and health sciences faculty at the invited VCCS schools in a timely manner. However, the seminar was held late in the semester due to the speaker’s schedule. Perhaps future seminars could be scheduled earlier in the semester to encourage more VCCS participation. Since the closest VCCS college is at least a 40 minute drive from Virginia Western, it may not be practical for other VCCS schools to travel to Virginia Western in order to attend a
one hour long seminar. Even though the seminar is free, gasoline costs and faculty/student time investment may be an issue. Faculty/instructors are only likely to travel to such events if they feature multiple presentations (symposia) and if their respective colleges fully reimburse them for the travel expenses. Faculty are not also likely to invest time in attending a seminar if they cannot have it considered to be valid continuing education for the purposes of faculty evaluations by administrators. Perhaps a short questionnaire can be sent to faculty at the invited VCCS schools asking what would motivate them to attend a seminar such as this, and if there is an optimal time to hold the seminar during the semester that would make them more likely to attend.

A more practical alternative that will be planned for future seminars would be to videoconference the seminars, so that all VCCS schools can view the seminar as a streaming web-based video on the Virginia Western website. After viewing our seminars, other VCCS colleges could use these seminars as a model for holding similar seminars at their own colleges.

**Evaluation:** A survey form was handed out to all seminar attendees. The same form was used for both faculty and students and contained questions specific for each group. The faculty/instructors were asked if they felt that the seminar achieved its purpose as a continuing education tool. They were also asked if they would like to see a continuation of the seminar series, and if they had any suggestions for future seminar topics. Comments and suggestions were also solicited.

Students were also asked if they considered the seminar to be beneficial and in what ways. Students were encouraged to suggest future seminar topics, and give comments about the seminar.

Faculty/instructors all agreed that the seminar was an excellent continuing education tool, and unanimously expressed a desire to see the series continue in the future. All faculty respondents gave several good suggestions for future seminars, and several respondents suggested notable area speakers that could be recruited to give seminars. All of the student respondents also thought the seminar was beneficial, however, some students thought the material presented in the seminar was difficult for them to understand. It should be remembered however, that the primary target audience for this seminar series is the VCCS faculty. Students appreciated listening to a research professor from a large university to gain an understanding of what kind of research is conducted at this level, and how typical research questions are answered. It is also important for potential transfer students to be exposed to the work that is going on at colleges that they may be applying to at a future date, after they have completed their studies at Virginia Western.

**VCCS Benefits:** The topic of the first seminar in the proposed biotechnology seminar series was “Biotechnology in Animal Research”, presented by Dr. Rami Dalloul, Assistant Professor of Immunology and Animal Science at Virginia Tech. The presenter was chosen since Immunology is a new course offering at VWCC. The seminar was attended by 6 faculty members of the VWCC Biology Department, and 25 VWCC students.

Faculty who attended the seminar were able to benefit in several ways. The faculty/instructors were updated on new biotechnology techniques that are being used in large research institutions such as Virginia Tech. While community college faculty can read literature describing the new techniques, having an actual researcher describe their use in solving research questions is essential. Research presentation seminars are known to be the best method to keep current with the rapidly changing field of science. Faculty whose area of specialization is not immunology were able to gain a much better understanding of this complex field, as well as learning where current research interests lie. Any faculty
teaching any biology course can take this information back to their classes and keep students informed of new biotechnology developments.

Based on survey responses, students who attended the seminar were able to benefit by gaining an appreciation for what actual research in a large university involves. Students also learned about new biotechnology techniques that they were not previously familiar with and how new biotechnology techniques can be applied to a field such as immunology. Students indicated that they were impressed with the level of research at Virginia Tech, and expressed a desire to continue their education at this university. Finally, students were introduced to the field of immunology, which will promote enrollment in the Virginia Western Immunology course.