

Harvesting Publication-Ready Manuscripts from the Senior Capstone Experience

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Abstract

- The UWF MLS program utilizes a written capstone in the format of case studies published by the ASCP. Implementation of a Quality Enhancement Plan to improve written communication skills has increased the average capstone grade from 65% to 86% and student and faculty publications from 1/year to 5 in 2016.

Learning Outcomes

- Define a high impact practice.
- Explain the advantages and disadvantages of using peer review for student written work.
- Describe the importance of a well-developed rubric for student success.
- Identify pitfalls to student writing that increase the difficulty in converting their writing to a publishable paper.

Why We Publish

- We don't have an obligation to perform scholarly activity
- We enjoy writing up interesting cases for publication
- We enjoy keeping the graduates invested in the program by making publishing easy for them; this keeps them bringing more cases to us and instills a love of publication in them

Senior Capstone Experience

NAACLS National Accrediting Agency for Clinical Laboratory Sciences Program review Standard 16

Core Standards and Documentation Required for Accredited Programs

Standard 16: Outcome Measures

A review of outcomes measures (e.g. external certifying examination results, results from capstone projects) from the last three active years must be documented, analyzed and used in the program evaluation.

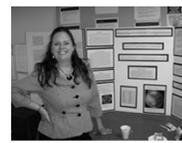
Standard 16 - Narrative: Describe how outcome measures (e.g., the performance of graduates on external certifying examinations or capstone projects) from the last three active years are considered in the program evaluation.

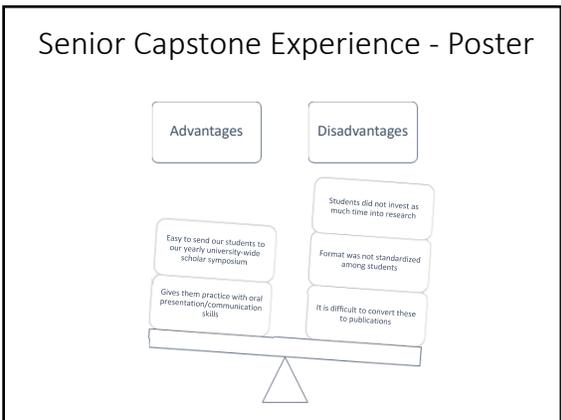
Standard 16 - Documentation: Submit the outcome measures for the last three active years and the number of graduates from the program.

Attach appropriate documentation in box above

Senior Capstone Experience

- Poster Presentations



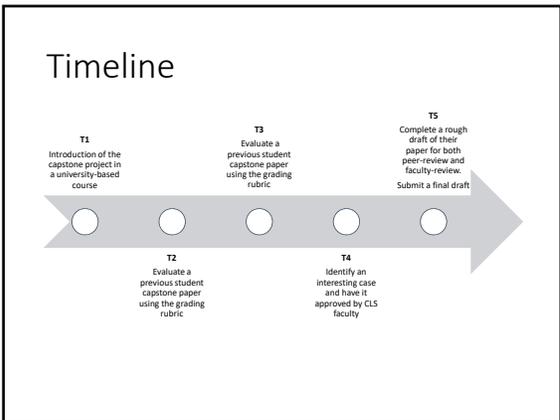


Poster Adaptation Experience

- *Acquired Thrombotic Thrombocytopenic Purpura Potentially Associated with Combined Oral Contraceptives*
- Lab Q
- Adapted from poster presentation
 - Difficulties with adapting manuscript from poster presentation
 - Difficulties in adapting manuscripts in general

Senior Capstone Experience

- Currently...
 - Students identify a case of interest in their first semester of the hospital internship. They write this case up in the style of LabQ during their final semester
- But, the project actually begins for them in their T1 semester...



QEP Grant

- UWF Reaccreditation by SACSCOC in 2015
- Florida Performance-Based Funding Metrics
- Identification of High Impact Practices being performed at the university that could be showcased
- No one really reached out (see: extra work), so they tied internal funding to it.

High Impact Practice (HIP)

High-Impact Practices

- Learning community or some other formal program where groups of students take two or more classes together
- Courses that included a community-based project (service-learning)
- Work with a faculty member on a research project
- Internship, co-op, field experience, student teaching, or clinical placement
- Study abroad
- Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, portfolio, etc.)

http://nsse.indiana.edu/html/high_impact_practices.cfm

Senior Capstone Experience

- While the writing of the senior capstone experience is on the very fringe of being considered a high impact practice, we had to add an extra element



Learning Communities and Peer Evaluation

- We place students in their T1-T3 semesters in learning communities to evaluate previous student capstone papers
- In the T5 semester, we put them back into learning communities to perform a peer evaluation

Rubric Development

- Prior to Fall 2015 – no rubric, subjective grading by each faculty member
- Fall 2015– start looking at applying for QEP grant; they love rubrics, we developed one
- Every semester since then – refining based on student submissions

Original Rubric

Student's Name: _____		Date: _____	
Rubric for Capstone Project			
1. Case History and Background		Total Points	
Requirements (10 pts)		Ex	Me
1. Medical case with laboratory history			
2. Case appropriate to field for regular case and includes the following:			
3. History, physical, and laboratory data			
4. Differential diagnosis and rationale for diagnosis			
5. Laboratory values for each diagnosis			
6. Laboratory values for each diagnosis			
7. Laboratory values for each diagnosis and the laboratory values for each diagnosis			
8. Laboratory values for each diagnosis and the laboratory values for each diagnosis			
2. Pathophysiology			
9. Pathophysiology of the disease process as it relates to the laboratory values for each diagnosis			
10. Pathophysiology of the disease process as it relates to the laboratory values for each diagnosis			
11. Pathophysiology of the disease process as it relates to the laboratory values for each diagnosis			
12. Pathophysiology of the disease process as it relates to the laboratory values for each diagnosis			
3. Laboratory Values and Questions		Total Points	
Requirements (10 pts)		Ex	Me
1. Laboratory values for each diagnosis			
2. Laboratory values for each diagnosis			
3. Laboratory values for each diagnosis			
4. Laboratory values for each diagnosis			
5. Laboratory values for each diagnosis			
6. Laboratory values for each diagnosis			
7. Laboratory values for each diagnosis			
8. Laboratory values for each diagnosis			
4. References and Citations		Total Points	
Requirements (10 pts)		Ex	Me
1. References for each diagnosis			
2. References for each diagnosis			
3. References for each diagnosis			
4. References for each diagnosis			
5. References for each diagnosis			
6. References for each diagnosis			
7. References for each diagnosis			
8. References for each diagnosis			

Rubric Refinement – Spring 2016

Student's Name: _____		Date: _____	
Rubric for Capstone Project			
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Requirements (10 pts)		Ex	Me
1. Medical case with laboratory history			
2. Case appropriate to field for regular case and includes the following:			
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8. References for each diagnosis			

Rubric Refinement – Spring 2016

Criteria	Excellent	Good	Fair	Poor
Introduction				
Background				
Methods				
Results				
Discussion				
Conclusion				
References				
Overall				

Further Refinements

- Copies of patients’ results, including blood bank panels
- Quotations
- Understanding what “peer-reviewed” means for references
- Figures taken from the internet that aren’t relevant to the case (ex: anatomy of the throat photo)

Rubric Implementation

- Increased the average capstone rough draft grade from 65% to 86% once we updated the rubric to the spreadsheet form
- Decreased faculty frustration with knowing a case would be good for publication, but also knowing it would be a ton of work to get ready (subjective; no measurement)

Peer Review Example

Filter by: All Posts | Clear filters Show: Threaded

Sep 1, 2017 2:11 PM
I love your topic.
Reply

Sep 6, 2017 2:43 PM
Hey! I may have been a little harsh but I'm trying to help with what I can!
Catherine
Jessica Edited by Catherine C. (566.52 KB)
Rubric for Jessica By Catherine C. (11.96 KB)
Reply

Kristen Coffey *
Oct 11, 2017 3:26 AM
See my attached post. This needs a lot of work before submitting. And you have to CME questions.
Coffey Capstone paper (1).docx (556.86 KB)
Reply

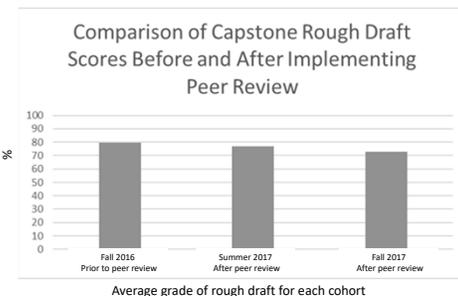
Peer Review Example

Sep 2, 2017 12:42 PM
You did a fantastic job on your paper so far!! I have very little critique!!
I have attached the rubric and an additional L&O Author Check list from L&O that you may find helpful for yourself to double check. I did use it to review your paper, but I recommend using it for your self to critique as you are more likely to notice any mistakes.
Was a pleasure reading your paper!
L&O AUTHOR CHECKLIST.docx (39.79 KB)
L&O Author Check List (1).docx (12.9 KB)
Reply

Sep 3, 2017 2:59 PM
This is very helpful. I will definitely change up the stuff you pointed out. It's so great to have another pair of eyes go through it. I think I need to change my citations based on that checklist too, they are in MLA not AMA. :)
Thanks a bunch Ashlyn.
How the edit made an effort to under the tab called review, just click track changes and it will let you write comments and put it all in burgundy. Glad it was helpful :)
Reply

Sep 3, 2017 3:01 PM
You did amazing on my review You definitely helped!
Reply

Student Capstone Scores



Peer Review Discussion

- Here is the single largest problem with peer review – if they don't know how to write quality content, they certainly don't know how to evaluate for quality content
- Essentially, they become grammar and spelling checkers
- This is the most useful for the easy items on the rubric (enough CMLE questions, formatting of references, etc.)

Faculty Review Process

- Every student paper is evaluated by at least two of our CLS faculty.
- At the end of the evaluation period, we schedule a faculty meeting to discuss the papers
 - We reconcile disparate grades
 - We identify papers that could be published and faculty volunteer to prepare for publishing
 - We always find another way to modify our rubric for the next cohort

Implementing TurnItIn

- Since we have done away with the students being allowed to use direct quotations, we are always fighting a battle with teaching students how NOT to plagiarize.
- Our online learning system utilized a system that allows us to easily identify this issue and correct it before the final draft is submitted.

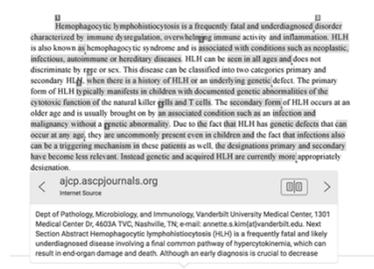
TurnItIn

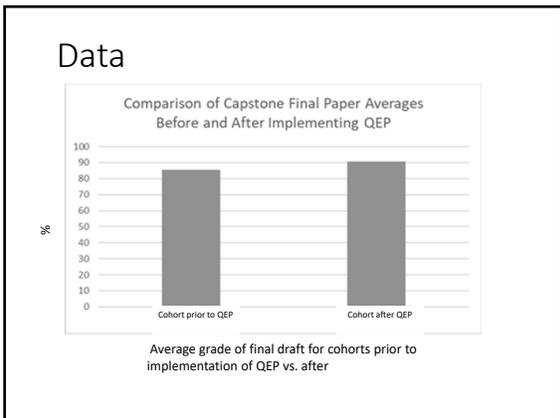


TurnItIn



TurnItIn





Manuscripts Published

Year(s)	Manuscript
2008-2015 Poster Presentation	<ul style="list-style-type: none"> Da Silva, HB and Behan K.J. Neonatal Alloimmune Thrombocytopenia Due to Anti-HPA-1A. LabQ 2008. DeLuna MM and Behan K.J. ABO Discrepancy and Hemolytic Anemia Post Liver Transplant due to Passenger Lymphocyte Syndrome. LabMedicine 2011;42:137-139. Sapp, S., Cavnar, K., Cavnar, P. Acquired Thrombotic Thrombocytopenic Purpura Potentially Associated with Combined Oral Contraceptives. LabQ 2015 No. 1506.
2015-2016 Written Capstone	<ul style="list-style-type: none"> Bates H, and Behan KJ. Red Blood Cells with Heinz Bodies can be confused with reticulocytes. LabQ 2016 No. 1607. Morfin Zepeda C, Coffey KH. Lab Medicine 2015. Schistosoma haematobium infection that mimics bladder cancer in 66-year-old ethnic Egyptian man
2017	<ul style="list-style-type: none"> Brooks T and Behan KJ. Exchange Transfusion in the treatment of priapism induced by Sickle Cell Disease. LabQ 2017 No.1709 Hematology. Schmitt, L. Using handheld POA devices to reduce specimen mislabeling and rejections. LabQ 2017
2018	<ul style="list-style-type: none"> Riggs, T., Cavnar, K. Identification and Reporting of Green Neutrophilic Inclusions. LabQ 2018. In Press. Green, M., Flaniken, L. Interpretation of Abnormal PTT with normal PT in asymptomatic patient. LabQ 2018 In Press. Ketzeler K, Coffey KH. Propionibacterium acnes: A significant pathogen in shoulder replacement surgery. LabQ 2018. In Press
2019	<ul style="list-style-type: none"> Bookheimer B, Coffey KH. The relationship between lipemia and hemolysis causes complex laboratory challenges. LabQ 2019. Accepted Talbott K, Coffey KH. Detection and prevention of contamination by intravenous fluids in blood specimens. LabQ 2019. Accepted

- ### Great Capstones You Can't Publish
- In addition to publications, we really do want to recognize and identify great student papers
 - Every semester, we award one student the "Best Capstone Paper" award and present them with a certificate and a gift card
 - Very often, this is not a publishable case
 - Examples:
 - Culprit or Contamination
 - Detecting Autoantibodies in a Patient with Multiple Alloantibodies
 - Influenza Type A and B False Positives Using the Sofia FIA Rapid Analyzer

- ### Acknowledgements
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