

# Using the Virtual Community of Dusonburgh to Bridge Competencies Throughout the NP Curriculum

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## Introduction

Differential Diagnosis in Primary Care is one of the first courses taught in our FNP curriculum. Students are asked to begin to bridge physical assessment skills to diagnostic reasoning. Course activities focus on application, building a client database and developing differential diagnoses through discussion board interaction. The primary teaching strategy is the use of the discussion board. Although we have used traditional text based individual case studies in the past, we believe that a constructivist and more contextually sophisticated approach is of benefit to our students.

The purpose of this poster is to illustrate the development and implementation of a low cost, high yield instructional strategy using a repository of case scenarios to teach online nurse practitioner students a myriad of concepts within the context of a virtual community called "Dusonburgh."

## Constructivism

The process of the discussion board is ideally suited to apply the use of constructivist learning theory. Students meet fully fleshed out characters who present to the clinic in Dusonburgh. Our students are asked to hone their assessment skills through discussion and reflection. Just as in real life, our characters present with vague complaints. Students begin to develop initial hypotheses and are expected to ask questions to elicit additional information from the character. As the week progresses, the facilitator releases new information and guides students through the process of developing differential diagnoses. Students "talk" through the discussion board as the character's clinical picture evolves causing them to reconsider and reconstruct initial ideas.

Our constructivist methodology incorporates the following suggestions by Legg, Adelman, Mueller, & Levitt (2009):

- Support of investigation problem based case studies in our "real world" of Dusonburgh
- Encourages the development of clinical reasoning through participatory discussion
- Facilitates reflection on knowledge acquired in physical assessment courses
- Relies upon authentic communication by course facilitator to skillfully guide students in the construction of new knowledge
- Uses Socratic questioning by asking students to clarify and dig deeper so students make connections between theory and real world patient care

## Development of the virtual community

This community is populated by faculty-developed characters and families. Character biographies, featuring medical and social histories, are housed in our online course management system (Blackboard). Community maps and a windshield survey are also available. Faculty use or adapt available materials to suit the concept being taught. Adapted materials are added to the site (after approval by faculty) so that the repository is endlessly malleable to the needs of the course or instructor.



## Example of implementation

### Discussion Board Instructions:


Each student must post once per week according to their role. Because unfolding cases will develop over time, additional postings may be needed as the case unfolds, but students are asked to adhere to their assigned roles. For example, new or further information will be presented as the week progresses such that more pertinent positives or negatives are revealed—this would require additional consideration by the leaders.

- Leaders - your post should address 2 differential diagnoses and the pertinent positives and negatives
- Zebra hunters - diagnoses that can be ruled out and why
- Fiscal managers - list any tests and exams that you would like to do, costs of tests, and which are reasonable
- Salon - Succinctly address ONE of the following:
  - (a) what other information is needed and WHY;
  - (b) has something been overlooked (differential, test, etc)?

**DAY 1:**  
Meet Marcus Dubois

- 19 year old black male
- Jessica's boyfriend (another DUSON resident)
- Plays football at local community college

Marcus is here today for a sports physical



**DAY 3:**  
Additional information is revealed.

- Family History: MGM HTN ( 72 A&W), PGF (74 A & W), PGM DM (died 77), PGF unknown hx (died 65), Father is alive and well.
- No other family history except first cousin died @ 17 years old, happened after playing basketball "had something to do with his heart"

**DAY 5**  
**Physical Exam**  
General: Marcus is a young, healthy-appearing 19 year old Haitian male, well groomed, fit and pleasant. Presents today for sports physical for football.

VS: 98.2 F, 68, 16, 116/72.  
Height: 71 inches  
Weight: 156 lbs  
Skin: Good turgor, no lesions, no excessive dryness or flaking of scalp or hair  
HEENT: Head is normocephalic, atraumatic, PERRL bilaterally, TM intact without erythema or effusion, bony landmarks no rhinorrhea. Nares patent bilaterally, mucosa is pink and moist, Buccal mucosa pink and moist without erythema, or exudate.  
Neck: Supple, nontender, no palpable nodes, no thyromegaly or masses  
Lungs: Clear all fields. Percussion sounds resonant. Vocal resonance is normal. No friction rub.  
Abdomen: Soft, nondistended. No organomegaly or masses. BS present and physiological in all quadrants  
Cardiovascular: Regular rate, rhythm without S3, S4, grade II systolic murmur noted.  
Back: Straight spine without scoliosis or kyphosis. Full ROM of spine. No CVA tenderness  
Ext: Full ROM all extremities. No pedal edema.

## Evaluation

Students readily engaged in postings and actively participated, posting 2-5 times a week. The assignment of roles helped them to focus on one aspect of a problem based case study, yet required active discussion to develop the clinical reasoning needed to fully appreciate the complex set of problems that are common to every patient encounter. Because this course occurs early in the curriculum, course facilitators reviewed postings daily to clarify points, update information, and to redirect student postings if needed. As case studies unfolded, updates were provided by posting an answer to a particular student or by posting additional information to the entire group.

## Lessons learned

The discussion board is a critical component in our online courses and students have indicated that Dusonburgh is an immersive environment that fosters learning. In addition, the use of role assignment focuses the student and minimizes repetitive postings. We have found that structure has increased student engagement and improved overall quality of postings. Student feedback has indicated that additional information for a given scenario should be timely and predictable. We will attend to this suggestion on the next iteration of the course.

## Summary

Dusonburgh is a useful strategy to bridge the concepts learned in physical assessment to their application in differential diagnosis. The cumulative experience of the faculty were used to develop case studies based on combinations of patients we had cared for over time - situations were based on real life experiences- all modified to be unidentifiable. General concepts and contextual decision making is presented in a time efficient, experiential format. Although we do not know yet, we believe that our students will be better prepared for the clinical management courses later in the curriculum. We continue to modify and evaluate our learning strategies but believe that this is a low cost, low maintenance approach to teach about the "presenting problem" in the context of the individual, family, community.

## REFERENCES:

- Habibick, V. (April 6, 2012). *Young man portrait* [photograph]. Retrieved from [http://www.freeDigitalPhotos.net/images/Younger\\_Men\\_g118-Young\\_Man\\_Portrait\\_p78667.html](http://www.freeDigitalPhotos.net/images/Younger_Men_g118-Young_Man_Portrait_p78667.html)
- Legg, T. J., Adelman, D., Mueller, D., & Levitt, C. (2009). Constructivist Strategies in Online Distance Education in Nursing. *Journal of Nursing Education, 48*(2), 64-69.