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Disclosure

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Innovative Teaching Strategies for Genomic Content Integration into Nursing Curriculum

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- Creating an online community to facilitate professional education and discussion of genomics integration
  - Essential to keep today's learners proactively engaged
- Organizing online assignments and group discussions to enhance learner outcomes
  - increasing knowledge base and comfort level with integrating genomics into practice
    - lack of knowledge of genomics and a lack of confidence with this complex content are significant obstacles to integrating

Online Community Essential

- Creating online groups where 5-6 students engage in Weekly Content Discussions
  - Develop Learning Modules to help organize course
    - Within each module, have individual hyperlinks to additional resources
- Set up Class Discussion Board
  - This is where, if have a very large group, can have individual groups upload a summary of their discussion
    - Organize week by week to help keep course structured

- Easier to upload entire course upfront
  - Need to be very organized & structured
  - Do not allow students to upload answers ahead of course schedule
    - Makes for competition amongst students and hinders learning
- Have CLEAR due dates for Weekly Content Discussions
  - Clear dates when Week begins and ends
    - Answers to Weekly Content due between Sunday 12midnight through Monday 12noon
      - Or by 12noon day before brick/mortar class
    - Discussion concludes Thursday 11:59pm
      - Can only begin Discussion after submitting Answers
      - Minimum 3 postings/responses
        - Summary by Group Leader in Class DB due Friday 12midnight - 12noon

- Have a list of Weekly Content questions that will keep online conversation flowing [pertaining to topic]
  - Set up Separate Threads
    - Answers – this is where each student individually submits answers for weekly content
    - Discussion – once answers uploaded, this is where overall dialogue takes places
      - Its ok to cut/paste same question if have multiple groups
      - Helps keep students discussing the same content/topics
      - Every group will go off on its own specific discussion but this helps to decrease any group feeling they didn't get the same as any other group
        - DB Point Deduction Criteria
          - Have in addition to Rubric of what expectation is for engagement

Resources Resources Resources Resources

- Available articles
  - http://onlinelibrary.wiley.com/advanced/search/results
- Mash-ups/Hyperlinks/YouTube Videos
  - Genetics 101 (Part 1 of 5): What are genes? https://www.youtube.com/watch?v=ubq4eu_TDFc
- Website links
  - Genetics Home Reference - http://ghr.nlm.nih.gov/
  - OMIM {Online Mendelian Inheritance in Man} http://www.ncbi.nlm.nih.gov/omim
  - https://www.genome.gov/27552312/
- Within each weekly Learning Module, have additional resources based on that topic

Assignments/Discussion Board

- Cincinnati Children's Genetic Education Program: Instructional Resources http://www.cincinnatichildrens.org/education/clinical/nursing/genetics/instruction/default/
  - Genetics is Relevant Now: Nurses' Views and Patient Stories
    - **90% or better** to receive assignment credit
      - Have students upload to BB/Platform. Can help the 'older' student get use to technology
- Weekly activities on discussion board and interactive learning activities
  - Group discussion enhances that focused content

Assignments: Undergraduate Students

- Methods of Course Evaluation:
  - Certificate Assignment – 5%
  - Genetic Condition Group Assignment – 20%
  - 3 Generation Paper [Individual paper] – 35%
  - Weekly Group Assignments – 25%
    - *Each weekly assignment worth 7.15 points*
  - 3 Quizzes – 5% each

- Group Assignments:
  - Weekly Group Assignments
    - In order to ‘apply’ the content, group work enables critically thinking
      - break into groups to do some the work in class and/or get together to complete the work
        - *The Group MUST upload answers onto BB under DISCUSSION BOARD, with Group # in Subject Heading*
  - Genetic Condition Group Assignment
    - Each group chooses a topic from specified list
      - Write a ‘collective’ paper based on specific questions
      - Upload onto BB under Class Discussion Board to share
        - Hard copy submitted for grading
        - No duplications of condition permitted
        - Rubrics for ALL assignments

- Construct a three-generation family history
  - Must have clear legend defined
  - Write individual paper based on criteria
    - Pedigree construction 30%
    - Content 30%
    - Included Healthy People 2020 Genomics section 15%
    - Learning Resources 10%
    - APA format/4-5 page limit/grammar 10%
    - Citations 5%

      - Must submit Rubric or receive point deduction

- 3 Quizzes – all online, 25 questions, 5% each
  - Based on the Learning Module breakdown. 24 hour available access
    - Quiz 1 – Modules 1-3
    - Quiz 2 – Modules 4-6
    - Quiz 3 – Modules 7-9

Assignments: Graduate Students

- Methods of Course Evaluation:
  - Certificate – 5%
  - Scholarly paper (ELSI) – 25%
  - Activity on discussion board and interactive learning activities – 50%
    - Individual student-focused assignments on weekly content, with homework assignments, case studies
  - Case Study Presentation/TellingStories – 20%

    - Rubrics for ALL assignments

Case Study Presentations/Voice Thread Assignment

- TellingStories http://www.tellingstories.nhs.uk/
  - Choose a case to explore; No duplicates allowed
    - Overview of condition including symptomatology and differential diagnoses.
    - Epidemiology, environmental and genetic contributions to condition.
    - Treatment modalities, priorities of interventions and rationale, and appropriate referrals
    - Genetic testing and counseling appropriate to client and family
    - Research implications
    - ELSI pertaining to your specific case
    - Relating to the specific TellingStories you have chosen, what are your answers to the Points of Reflections and Activities that are written for each story.
  - Student expected to upload their presentation onto BB
    - Allows students to learn technology
      - Provides opportunity to practice prior to uploading

Scholarly Paper: Ethical, legal, social implications related to genetic/genomic information

- Description of ethical problem
  - Involving at least two contrasting positions
- Define major stakeholders
  - Who have an interest, or claim in issue
    - Stakeholders include individuals, families, communities, institutions and societies
- Detail position of each stakeholder or viewpoint
  - Expressed as an argument, or a series of reasons that support position
- State/explain major ethical conflict between/among stakeholder
- Describe clinical implications of ethical problem
  - As it relates to genetic condition
- State/explain resolution to ethical conflict
  - Provide reasons, supported by evidence, to justify why take that position
  - Describe patient education resources that can assist client

Educator Organization

- Must be very organized
- Detailed syllabus and Education Platform [such as Blackboard] should be structured with numerous resources
- Developed Excel Spreadsheet
  - Can check off students name when completes assignments
- Have rubrics for all assignments
  - Require student to submit with assignments
    - If do not provide, point deduction [DB Point Deduction Criteria]

Clinical Relevance

- Promoting transformation of genomic knowledge and practice to advance global health practices and nursing competency is an ever-evolving process
  - Begins with realization that *all educational levels* must be involved and informed to integrate this knowledge and confidence into practice to improve patient health outcomes
- Despite growing use of genomic applications in clinical practice, health professional knowledge about genomic information and confidence in using it have not kept pace
  - Nurses do not have the knowledge or tools needed to apply genomic information in professional practices

Conclusions

- Developing online courses is what current student expects
  - Do not want to come to ‘campus’ weekly
- Developing communication discussion boards broadens their conceptual thinking on the content
  - Allows for the ‘silent’ student to be heard
- Exploring basic foundational knowledge and building to complex patient scenarios facilitate students with applying this knowledge with confidence
- Educator MUST be very organized and detailed
  - Online teaching not easier!
    - Yet, easier once you create the class

- Thank you for your time
  - If anyone has any questions, please do not hesitate to contact me