Within our academic center, collaboration among professionals from various disciplines to address and solve problems has been encouraged for many years. Approximately nine years ago, a unique collaborative effort was established when faculty from our Industrial Design and Nursing programs joined together to collaborate in a studio on an assisted mobility device project. To facilitate this collaborative effort, the student courses are synchronized over the course of a semester in which the students work together to generate innovative solutions to various health problems. It has been well documented in the literature that when health professionals work collaboratively as an integrated team, each person on the team practices on a higher level, resulting in improved patient outcomes and higher levels of patient satisfaction (Clarke & Hassmiller, 2013; Fawcett, 2014; Gray & Christov, 2017; Humbles, McNeal, & Paul-Richiez, 2017). The collaborative effort facilitates achievement of goals that are unable to be accomplished exclusively within a single discipline (Furr, Lane, Serafica, & Hodge, 2015; Williams, Merrill, Heise, & Novilla, 2014). Several years ago, our university president publicly supported a university-wide initiative addressing the need for concussion prevention, specifically among student athletes. With this in mind, collaboration between Industrial Design and Community Health Nursing has concentrated its studio activities on addressing concussion prevention. We felt that it would be beneficial to include various high risk sports at the elementary, secondary, and collegiate levels, as we were seeking to determine which populations were most vulnerable to mild traumatic brain injuries.

Students enrolled in the one of the design programs partnered with nursing students in a collaborative, conceptual studio to address problems encompassing the prevention of concussions. Together, the students formed teams and worked together utilizing both the nursing and design processes to gather research findings and collect specific data about their selected population. Using this data, the student teams conducted an in-depth analysis of the information and underwent an iterative process to develop several solutions that may benefit the target population. The student groups performed lab testing of products and transformed these into actual or conceptual products that were designed to benefit the end user. Since we implemented this initiative several years ago, our student teams have focused on concussion prevention in high-risk associated sports, including football across all student age groups, hockey, as well as cycling. Recently, we addressed concussion prevention among college-aged athletes participating in women’s soccer, women’s lacrosse, and cheerleading. Our student teams worked closely with patients, caregivers, doctors, and therapists to develop a clear understanding of how concussions occur in each of the sports. With this information, these students developed primary, secondary, or tertiary prevention strategies including education systems, virtual awareness training, or a wearable product solution. Since this time, some project results have undergone additional research to determine if they could be applied at a broader level.


**Abstract Summary:**
Upon completion of an interprofessional collaboration experience between a design and nursing program, the students gained an accelerated understanding of multi-disciplinary problem solving, peer to peer learning, and the satisfaction of addressing a problem for community populations that are in need of assistance.

**Content Outline:**

I. Interprofessional collaboration between Design and Nursing  
   A. History of collaborative partnership between the two programs  
   B. Structure of courses involved  
   C. Literature supporting interdisciplinary collaboration  

II. Interprofessional collaboration focused on concussion prevention  
   A. Vulnerable populations affected by concussion  
      1. Student athletes

      a) High-risk sports

      b) Elementary, secondary and collegiate levels

   B. Interprofessional collaboration
1. Faculty responsibilities
   
   a) Course planning and development
   
   b) Identification of appropriate populations
   
   c) Education of both groups of students on the design and nursing process
   
   d) Selection of interprofessional teams
   
   e) Provide necessary resources for students to access regarding topic and population

2. Collaboration between students
   
   a) Maintain clear communication between interprofessional team
   
   b) Follow design and nursing processes
   
   c) Develop primary, secondary or tertiary prevention strategies for selected population, including education systems, virtual awareness training or a wearable product

3. Future direction
   
   a) Students provided with resources to continue research and product development

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Professional Experience: Since graduation from my BSN program 25 years ago, I have worked in the areas of med-surg, neuroscience acute and critical care, and rehabilitation. My MSN is in Adult Health as a CNS, and I have completed a post-masters Family Nurse Practitioner. I am also a nursing educator and am the faculty member for the community health nursing course involved in the collaborative studio. I have presented on various topics in neuroscience nursing, including traumatic brain injuries as well as the work of our collaborative design studio.

Author Summary: Jeanine Goodin has a strong background in neuroscience nursing and has presented on various topics within this specialty at the local, regional and national levels. She is a both a Family Nurse Practitioner and a nurse educator, and has taught at all levels in the undergraduate and accelerated programs, in medical-surgical nursing and community nursing.

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**Author Summary:** Steve Doehler is recognized as an expert designer in his field and developed numerous products over the course of his career. He is an Assistant Professor in the School of Design at the University of Cincinnati, and is the lead faculty for the design course involved in the collaborative studio with nursing. He has presented on various topics related to design and interprofessional collaboration with nursing at the international and local levels.