UNIVERSITY OF CALGARY

Teaching Dossier

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TEACHING DOSSIER

SECTIONS:

PART I: Approach to Teaching

Teaching Philosophy

My primary goal as an educator is to provide an environment where students can be critical thinkers. Moreover, I feel it very important to motivate the student through various methods such as cutting-edge research and/or clinically relevant examples to make the message as applicable as possible. Both of these concepts are employed in my lectures through the principles of (1) active participation both in class and in preparation prior to the lecture, (2) student interaction, and (3) effective communication. These principles not only apply to the student but also to myself, the educator. On the first class of every semester, I begin by clearly stating that "I work for them" and that "my job is to help them succeed." I make no other claims than to work hard to help them do their best in the class. By showing and telling the students that I am committed to their education, I hope to inspire them and instill a passion for active learning and inquiry. It is through inquiry and active learning that we can shape and develop students to become future leaders in health and wellness.

Core Philosophies

My overarching teaching philosophy is to create a learning environment that enables ***critical thinking.*** I believe that several factors must be set in place in order to allow the students to think critically about the course material. To this end, the following statements summarize my teaching philosophy that I bring into my teaching practice.

I believe it is critical to create transparency and trust within the classroom. The first step towards earning the student's trust is to be transparent. I initially work towards transparency by clearly outlining my expectations at the beginning of each semester and explain the principle of student-driven learning. I explain how each lecture will involve a conversation rather than simply receiving information from me and I make it absolutely clear to the students that they must come prepared for each lab and lecture. I also make it very clear that my job is to ensure they are respected, treated fairly and that hard work will be rewarded.

I believe in a student-driven learning approach to teaching and learning. The main objective of learning is to require the students to be active and responsible participants in the process. I integrate the lecture-lab material as much as possible and I have also developed specific methods to train the GATs since they are an extension of me within the laboratory setting. Specifically, the GATs and I meet weekly and discuss their experiences from the past week so that everyone better understands what worked well and what didn't work. We also develop common laboratory learning "stations" to ensure there is consistency across all labs and we create the next set of weekly practice exam questions.

I believe in incorporating advanced technologies. Technology touches nearly every part of our lives and research clearly shows that incorporating technology into our curriculum deepens and enhances the learning process. The plethora of resources of the online world also provide each classroom with more interesting, diverse, and current learning materials. Technology also changes the way teachers teach and offers instructors different and more effective ways to reach different types of learners and assess student understanding through multiple means.

I believe that students benefit from a variety of instructional methods. Not all students learn in the same manner, at the same pace, or in the same environment. Since some students are more visual, others more experiential, within the same lecture I use different learning strategies that depend on the material being taught and the focus of the class. However, the most important part of creating this environment, and determining which instructional methods the students need, I make sure I stop and listen to their needs, determine their strengths, and make appropriate decisions based on what will benefit the students the most.

I believe in an evidence-based approach to teaching and learning. I work very hard to keep myself current in the fields of educational research, pedagogy, and andragogy. Overall, the method in which I approach teaching and learning has been strongly influenced by major research findings. Moreover, I consider all student feedback to better understand how my instructional activities and decisions are affecting their learning and I use this feedback to make decisions about future course modifications.

I believe that teachers learn from teachers. Teaching should not be private and the way in which you grow and develop an expert teaching practice can only come from receiving feedback. I continue to seek out mentors for myself and I also look for opportunities to help my colleagues become better teachers.

Evidence of Teaching Excellence

I have been teaching at the University for over 10 years in the faculties of Kinesiology, Nursing, and Engineering and I have taught at all levels of the undergraduate curriculum. I am deeply honored to have received the Student's Union (SU) Teaching Excellence Award on four separate occasions and an Honorable Mention on four separate occasions as well. I have also been recognized by the Faculty of Kinesiology and received the Award of Excellence for Teaching on four separate occasions: the first Assistant Professor to be recognized for outstanding teaching contributions. In 2013, I was inducted into the SU Teaching Hall of Fame and in 2015 I was nominated by the Faculty of Kinesiology and I received the University Teaching Award at the Associate Professor level. Subsequently, I was deeply honored to be invited to join the Teaching Academy.

I am also an active member of the Teaching Academy and one of three leaders for the Open Classroom Week (OCW) program. This group works closely with the Educational Development Consultant within the Taylor Institute for Teaching and Learning with the common goal of supporting the development of individual and collective teaching practices on our campus. During OCW, members of the Teaching Academy open their classrooms up to other instructors from across campus to help them learn new skills and develop as instructors. In a 2015 UToday interview about OCW I stated that OCW "*is an opportunity* *for us to demystify teaching and recognize the exceptional and innovative, but also recognize the basics*." I also lead a de-brief at the end of OCW so that the participants have an opportunity to ask questions and gain a deeper understanding of teaching practices from the members of the Teaching Academy.

Summary of Teaching Awards

Students' Union Teaching Excellence Winner:	2006, 2008, 2012, 2013
Students' Union Teaching Excellence Honorable Mention	2005, 2007, 2009, 2010
Inducted into Students' Union Teaching Hall of Fame	2013
Faculty of Kinesiology Teaching Award	2005, 2006, 2008, 2012
University of Calgary Teaching Award	2015

Teaching Methods

I consistently employ the principles of (1) active participation both in class and in preparation prior to the lecture, (2) student interaction, and (3) effective communication. However, how each of these is managed depends on the size of the class.

Throughout my academic career I have generally taught 2 different sized classes: Human Anatomy with upwards of 250+ students and Biomechanics or Athletic Therapy classes with approximately 25 students.

For class sizes upwards of 250 students, I provide all lecture notes beforehand and require the students to read over the notes, find the appropriate pages in the textbook, and come prepared to answer questions and relate the material to previous classes. While anyone can simply deliver a lecture, I constantly create each lecture to relate back to previous material in the hopes of maintaining their attention, engaging them in active learning, and fostering inquiry. I have developed several different methods for promoting active participation and interaction in each lecture for these large classes.

For example, my lectures are designed to take less than the full 50 minutes of actual lecture time: generally 20-25 slides total. By doing so, I have the flexibility to ask questions, answer questions, and provide clinically relevant examples based on my clinical experience. I purposefully leave information off of each slide so that the students prepare appropriately and thereby understand that coming to lecture is a critical part of their education. As well, for nearly every lecture, I have a clinically relevant story or discuss cutting-edge and relevant research at the 30-minute mark that brings the material being taught back to the "real world" and provides context for the lecture.

For class sizes of 25 students, the readings prior to class are research articles from peer-reviewed scientific journals. The students are asked to read the article(s) and come prepared to have a discussion. The actual lecture generally only involves 5-7 slides that come directly from the research article and we simply have a discussion. I ask the students to lead the discussion by first summarizing the article, discussing the strengths, weakness, and methods. Finally, we related the research material to previous lectures and begin to gain greater understanding together. It is through these methods that I work toward active learning and inquiry.

PART II: Teaching Responsibilities

Teaching History

Starting in 1996, I have had the opportunity to serve as the primary lecturer for Human Anatomy during my graduate studies at the University of Oregon. In addition, I took a one-year leave of absence from my PhD studies and was employed as a Fixed Term Instructor at Oregon State University. When I returned to Calgary for a second Post-Doctoral Research Fellowship, I began teaching Human Anatomy for the Faculty of Kinesiology and Anatomy and Physiology (A&P) for Engineers for the Department of Biomedical Engineering. As a full-time faculty member in Kinesiology, I have continued to teach Human Anatomy and I have developed several other classes including Anatomical Dissection and Clinical Biomechanics. I have also guest lectured and recently co-instructed A&P for the Faculty of Nursing. Finally, for the past year I have been involved in the development of a new full-year A&P course for both Kinesiology and Nursing undergraduate students. Below is a summary of the courses I have taught as the primary lecturer.

1996 – 2001: University of Oregon
- EMS 101 – Exercise as Medicine
- ANAT 311/312 – Human Anatomy
- EMS 609 – Graduate Advanced Clinical Anatomy *
- EMS 607 – Graduate Advanced Seminar in Sports Medicine *

2000 - 2001: Oregon State University
- EXSS 257 – Athletic Training Practicum – injury evaluation
- EXSS 356 – Care and Prevention of Athletic Injuries
- EXSS 357 – Athletic Training Practicum – advanced rehabilitation*
- EXSS 365 – Emergency Management
- EXSS 380 – Therapeutic Modalities
- EXSS 390 - Athletic Training Practicum – advanced therapeutic exercise*
- EXSS 445 – Therapeutic Exercise*

2005 – present: University of Calgary
- ZOOL 269 – Anatomy and Physiology for Nurses (2009 – 2010)
- BMEN 309 – Anatomy and Physiology for Engineers (2007 - 2009)
- KNES 261 – Human Anatomy (2006 – 2009)
- KNES 503.63 – Clinical Biomechanics (2010, 2013)*
- KNES 460 – Anatomical Dissection (2005 – present)*
- KNES 259/260 – Anatomy and Physiology (2010 - present)*

* indicates development of a new course

Teaching Mentorship and Student Engagement

I have had the distinct pleasure of mentoring several faculty members, post-doctoral fellows, and graduate students during my time at the University. For each of these individuals I employ my core leadership philosophies of building a shared vision, creating opportunities for sharing knowledge, working as partners, and regular, two-way communication. As I teach them my core Teaching Philosophies, and in this manner, we both benefit from the experience.

My first experience with one-on-one mentoring was based on the BMEN 309 course - Anatomy and Physiology for Engineers. I taught in the Winter 2007 and 2008 semesters and when Dr. Tannin Schmidt joined the University as an Assistant Professor, I co-instructed this course with him during the Winter 2009 semester. In the beginning, Dr. Schmidt attended every lecture to learn more about the teaching and learning approaches that were being used to foster student learning and engagement in the classroom. I met with Dr. Schmidt after each lecture to discuss what worked and what didn't as well as discuss different teaching and learning philosophies. Subsequently, while this relationship continued to build and regular two-way communication took place, Dr. Schmidt began to lecture after 3 weeks (approximately 9 lectures) and leading up to the midterm examination. I continued to observe Dr. Schmidt during the second half of the semester and we continued to work together on a lecture-by-lecture basis. Dr. Schmidt has taught this course each year since 2009 and he received the Schulich School of Engineering – Outstanding Teaching Performance award in 2012 and 2013.

I have also mentored several post-doctoral research fellows and graduate students who have been involved in KNES 259/260 – Human Anatomy and Physiology I/II. For example, early in my teaching career I identified Mr. Brandon Hisey as a mentee when he was a first-year MSc student in Kinesiology in order to build a long-term relationship with an individual who I thought would be an ideal Head GAT for this class. I met with Mr. Hisey individually every two weeks over the course of 2 years to discuss course curriculum, teaching and learning philosophy, and my ideas of how the laboratory material could better complement the lectures and how a new senior-level dissection class was a critical part of his overall plan. Thus, Mr. Hisey also became involved in the curriculum development for the KNES 259/260 course as a student partner. I continue this approach with each new Head GAT.

One of my more recent mentees is Jodi Nettleton who served as the Head GAT for KNES 259/260 for the past 3 years. Ms. Nettleton and I re-arranged the lecture-lab material to optimize the course for the students as I began to incorporate new technologies and material in to the lecture. The result was a new Lab Manual for these courses in which Ms. Nettleton is a co-author having provided invaluable feedback, input, and outstanding contributions towards these publications.

Finally, I am an active member of the Teaching Academy Peer Support (TAPS) initiative through the Taylor Institute for Teaching and Learning. For the past 2 years I have engaged in one-on-one mentorship with colleagues from across campus who were interested in adding more tools to their teaching toolbox. I meet with these instructors to learn more about what information they are seeking, what they find to be successful pedagogical practices, and how I can help them. In this manner, we share knowledge, work as partners, and engage in regular, two-way communication.

PART III: Course Materials

Sample lecture large class

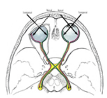
As discussed in the Teaching Methods and Teaching Philosophy sections, my approach to a large class is distinct from that of a small class. For a large class, interaction with individual students is sometimes difficult so I make sure that all students have the material ahead of time. The example lecture provided is posted, via Desire-2-Learn (D2L), well in advance and 2-3 times at the beginning of the semester I make sure the students are aware that they must come to class prepared. Each lecture is usually only 20-25 slides, which generally results in a 40-minute lecture. The other 10 minutes is thus available for questions and to help clarify and bring together concepts from previous lectures.

One aspect I feel important to discuss again is that I believe my role is to ensure each student has a thorough understanding of the material covered in each lecture. By having fewer slides, and allotting less than the full 50 minutes of actual lecture time, I have the flexibility to ask questions, answer questions, and provide clinically relevant examples based on my clinical experience.

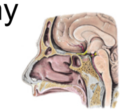
For each large class lecture, there is also a laboratory component that is meant to compliment and allow the student to apply and solidify what they have learned in lecture.

KNES 259: Human Anatomy & Physiology I

I designed the KNES 259/260: Human Anatomy I/II course content so that each lecture relates back to foundational material and builds upon one another in order to foster engagement and promote inquiry. The following are slides from Lecture 1. You can see that I work to establish the student-driven learning model at the outset and I spend a great deal of time on the slides 2 and 3 making sure everyone understands the expectations and how the course will function. By doing so, I work towards ***developing transparency and trust.*** I then transition to the lecture material and help them learn a common "language" of anatomical terms that will be used henceforth.



KNES 259
Human Anatomy
& Physiology I

Dr. Reed Ferber

How to Succeed in this Course!

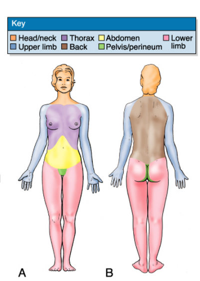
- Teach yourself – teach others
- Study groups (4-5 people max)
- Review topics orally

How to Succeed in this Course!

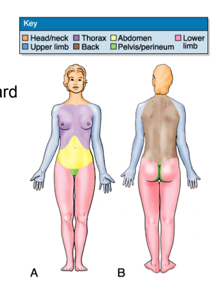
- **Come prepared for lecture and lab!**
- Student-driven learning
  - We are having a conversation – not a lecture.
  - Review notes prior to class
  - Do all the reading
  - ***Come prepared!***

Lecture 1:
Anatomical Terminology and Planes

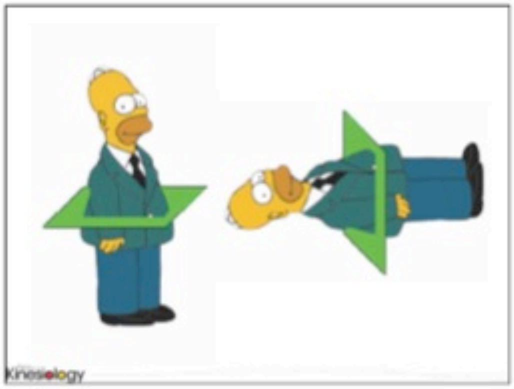
- Regions of the body
  - Head / neck
  - Upper limb (extremity)
  - Thorax, back, abdomen
  - Pelvis, perineum
  - Lower limb (extremity)

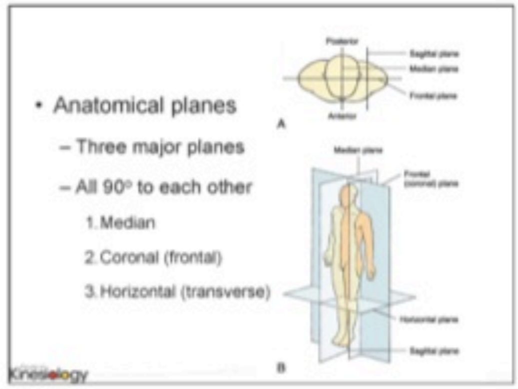


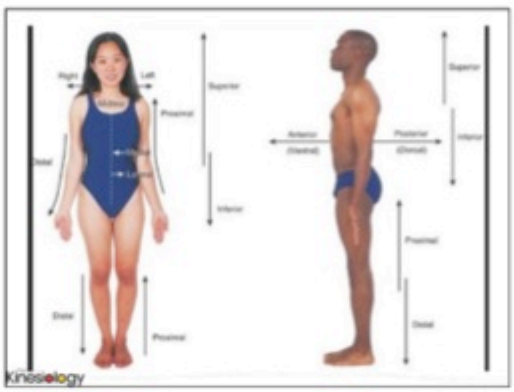
- Anatomical position
  - Everything pointing forward
    - Head, eyes
    - Palms
    - Feet, toes
    - Ankle = ***dorsiflexion***

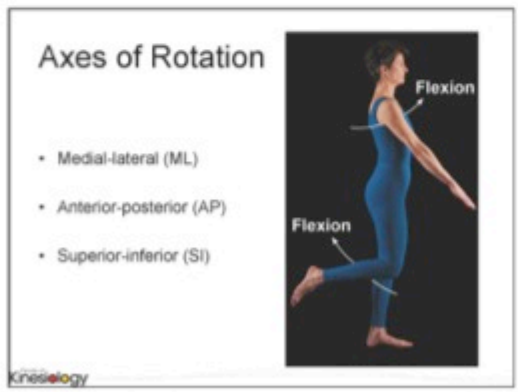


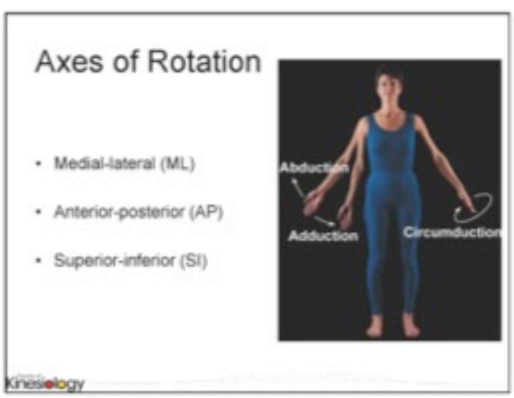
These first few slides are perhaps the most critical for the entire course, as most every lecture that follows will utilise these terms. For example, the terms distal/proximal and superior/inferior are used extensively in lab and each upcoming lecture. The final three slides of this lecture are designed to promote student interaction (difficult for a class of 450 students!) as I ask the students to stand up, move in a similar manner as the person on the slide, and tell me the plane of motion and axis of rotation based on the choices given. By doing so, I am beginning to foster an environment of ***critical thinking*** and student engagement.

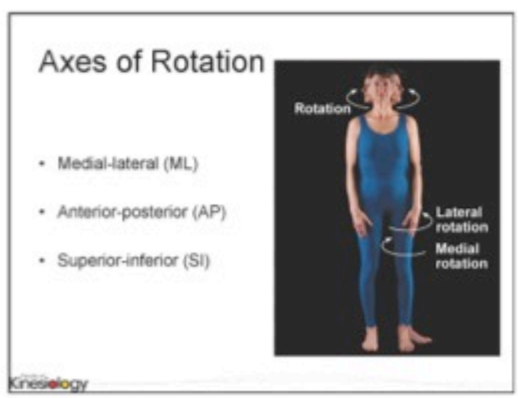




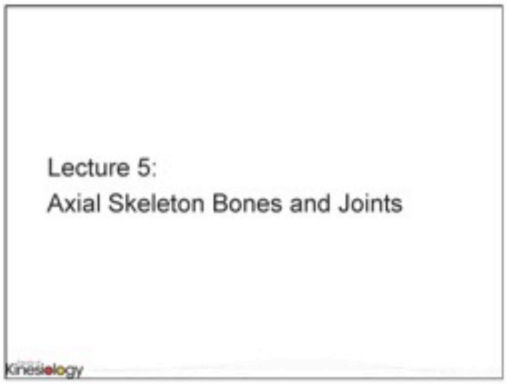


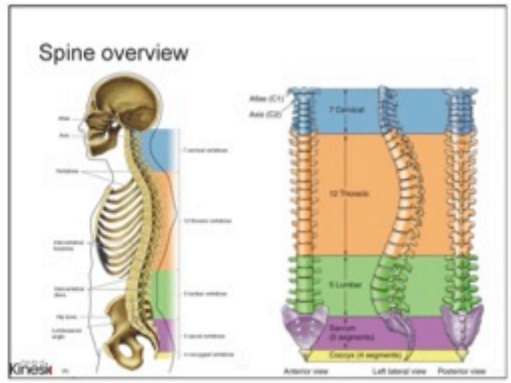


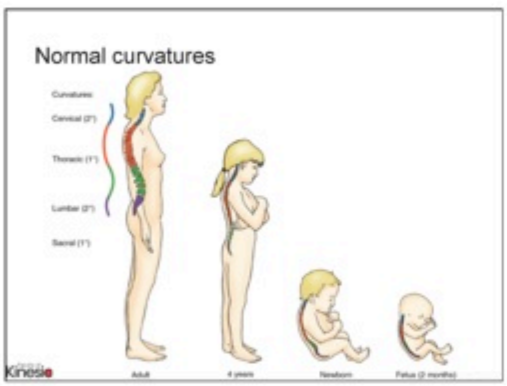


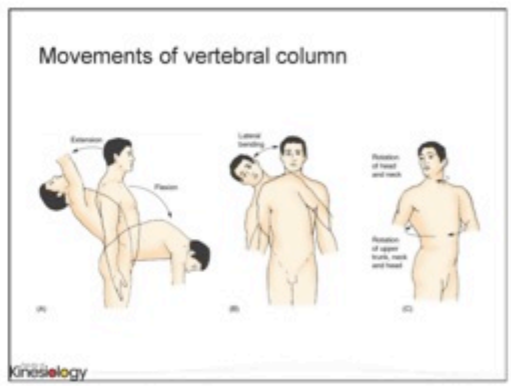


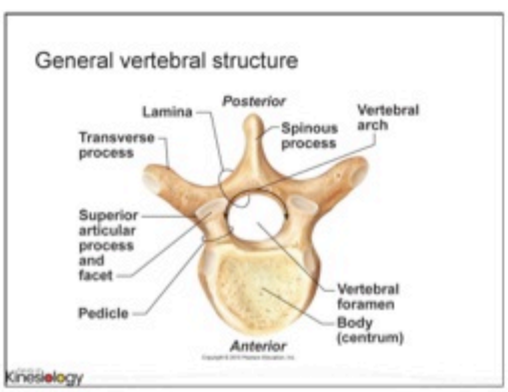
Lecture 5, shown below, is a nice example of how the lectures build upon one another and how the foundational material from Lecture 1 is incorporated. Specifically, I provide a brief overview of the spine, its regions, and development of secondary curvatures (building on information from Lecture 2: Bone development). I then discuss the movements available within the spine, building upon information from Lecture 1. The general vertebral structure slide (#5) provides an overview of the structures found on a typical vertebra and will involve terms also learned in Lecture 1 such as medial/lateral, and superior/inferior. I then transition to how two vertebrae "fit together" or articulate. However, at this point I usually see student engagement slipping away quite quickly.

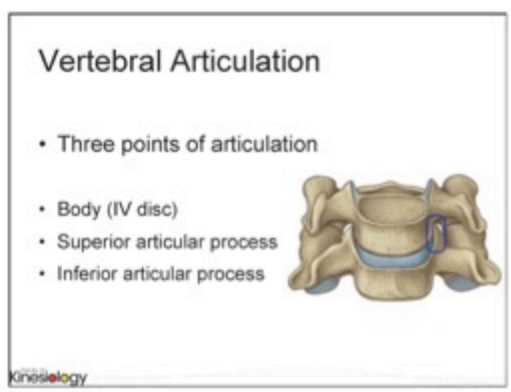




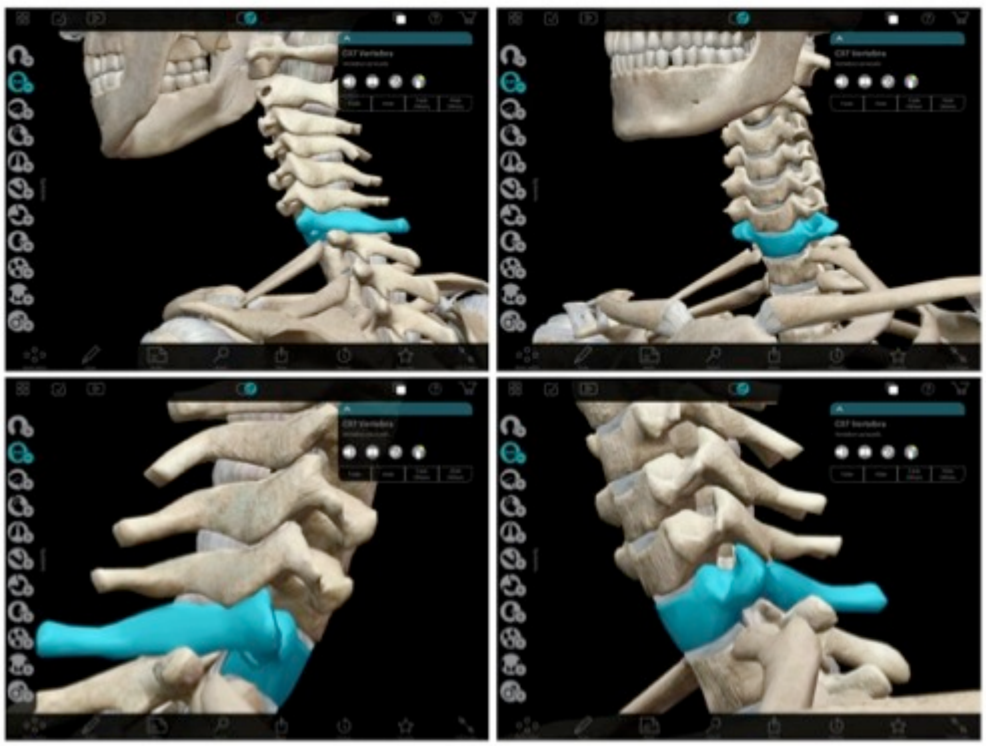




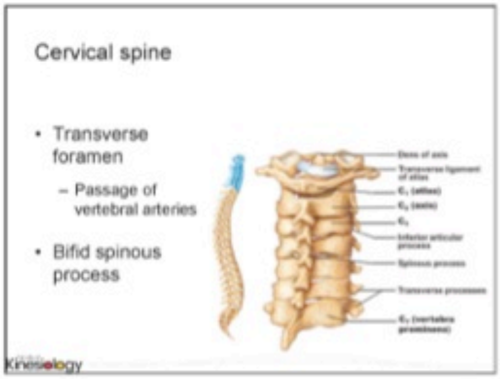


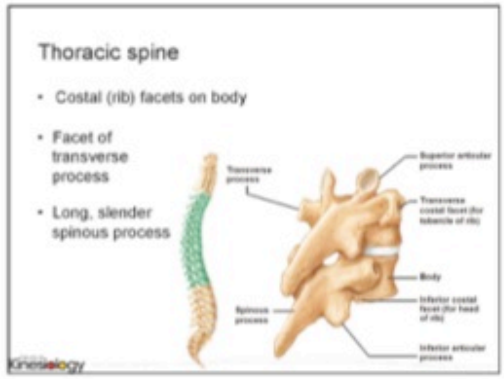


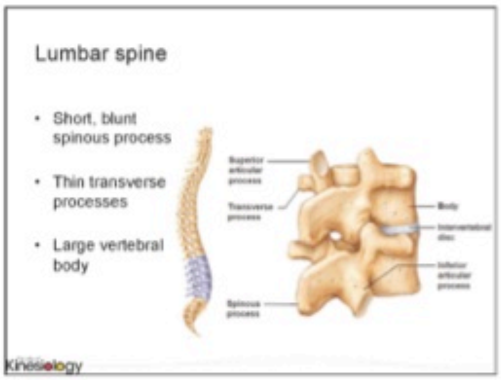
Student engagement is slipping away at this point for two reasons: (1) its now 8:15am and (2) I'm explaining a 3-dimensiional (3D) concept using a 2-dimensional (2D) medium; namely the PowerPoint slide and a picture. Therefore, I quickly transition to my iPad and use the visuals from the Virtual*Human* app I have prepared beforehand. Below are four screen-shots from this interactive 3D program. I can quite literally see the students "wake-up" and lean forward as I rotate the skeleton and ask them to find their own C7 vertebrae (highlighted in blue in the pictures below and one that can be easily palpated since it is the most prominent spinous process at the base of the neck). This interactive activity helps to reinforce and better understand, ***through direct 3D visualization***, how adjacent vertebrae articulate. The concept that a "superior articular process from the inferior vertebra articulates with the inferior articular process from the superior vertebra" can now be more easily understood since it can be visualized and I can zoom in and out and highlight the exact structures I am discussing. By using this ***advanced technology***, I am promoting ***critical thinking*** amongst the students.

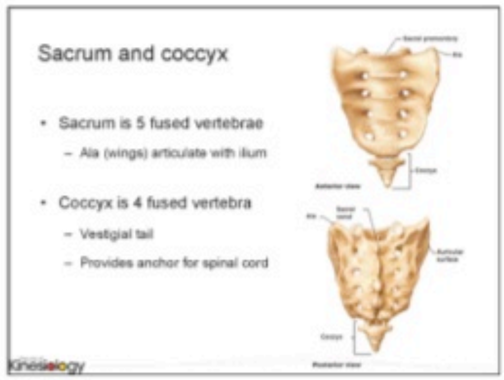


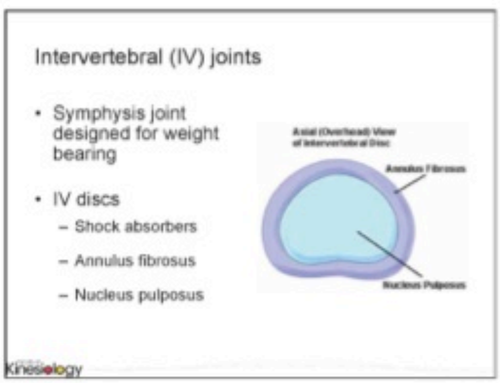
Another method for promoting active participation and interaction for these large classes is a clinically relevant story or cutting-edge and relevant research at the 30-minute mark. This information is designed to bring the lecture material back to the "real world" and provide context to the lecture. As Lecture 5 continues, I transition back to the PowerPoint slides (see below) to discuss the different regions of the spinal column and unique features of each region. If students have questions or I feel there is the need to provide them with a more relevant example, I can easily transition back to the 3D virtual human program and provide them examples. The "real world" discussion point is provided wherein I discuss disc pathology, based on the anatomical terms just learned, and what happens when someone "slips a disc."











The example of disc pathology also allows me to introduce the students to nerves of the body and nerve entrapment, concepts that will be covered in the upcoming Lecture 10. I also find it very effective to ask the students if they have ever sustained a disc injury and to describe their symptoms. Out of a class of 450 there is almost always 1 or 2 students who either had this experience or have a close family member suffer annular tears and disc herniation. As the student tells their story, the rest of the class listens intently and learn that they need not be intimidated speaking in a large classroom. In this manner, I work towards developing an optimal teaching and learning environment.

PART III: Course Materials

Sample small large class

As discussed in the Teaching Methods and Teaching Philosophy sections, my approach to a large class is distinct from that of a small class. For a small class, I want to promote an intimate discussion and get each student involved in this discussion. For the example lecture provided, there are two research articles (attached) and the students are asked to read the articles in advance of class. The discussion that ensues is student-driven and my role is to act as a facilitator of that discussion.

I have included examples of the midterms given in this class as well as an example of the group project assigned as a capstone for the class. The group presentation is meant to provide the students to combine what they have learned in class with a topic they find interesting. I have several meetings with the students throughout the semester to ensure they are on-track and moving in the right direction. It is through this one-on-one approach I strive for teaching excellence.

KNES 503: Clinical Biomechanics

This course was designed to fill a gap within the Kinesiology curriculum and tie together the concepts and principles taught in two core-courses within Kinesiology: KNES 263 – Biomechanics and KNES 259/260 – Human Anatomy & Physiology I/II. The overarching theme is to understand the complex interaction between: (1) gait biomechanics (how you walk and run), (2) anatomical structure (how you're built), and (3) neuromuscular function (how your muscles work).

I developed this course independently and each lecture follows a similar format to the example provided. First, one or two primary research articles are assigned for the students to read (see below). In this example, an article on barefoot running published in Nature from a research group at Harvard University was garnering a significant amount of attention within the academic community and popular media (e.g. Runner's World magazine, National Post newspaper, etc.). However, a group from Belgium published a similar article 12 years prior so I used this opportunity to have the students compare and contrast the research.

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LETTERS

Foot strike patterns and collision forces in habitually barefoot versus shod runners

Daniel E. Lieberman[1], Madhusudhan Venkadesan[1,2]*, William A. Werbel[3]*, Adam I. Daoud[1]*, Susan D'Andrea[4], Irene S. Davis[5], Robert Ojiambo Mang'Eni[6,7] & Yannis Pitsiladis[6,7]

ELSEVIER

Journal of Biomechanics 33 (2000) 269–278

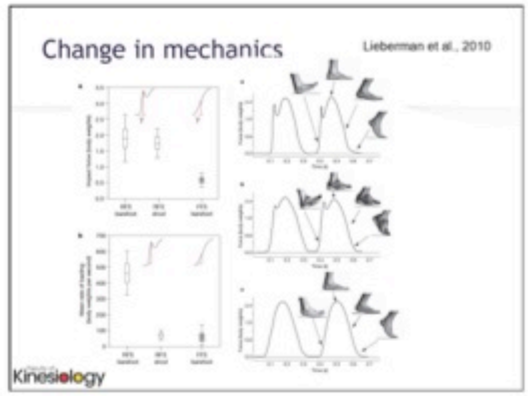
JOURNAL OF BIOMECHANICS

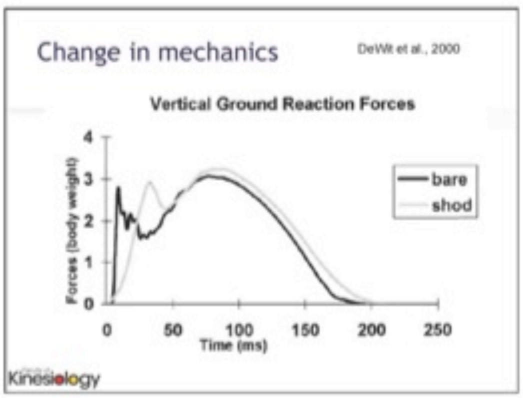
www.elsevier.com/locate/jbiomech

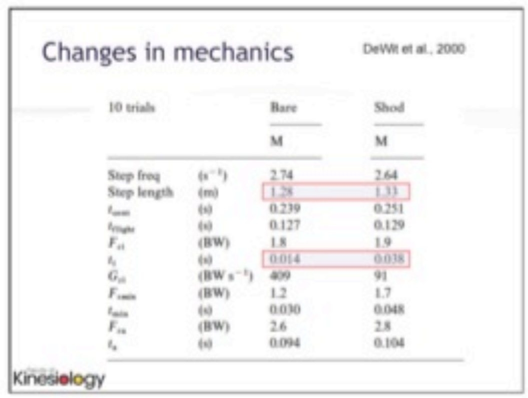
Biomechanical analysis of the stance phase during barefoot and shod running

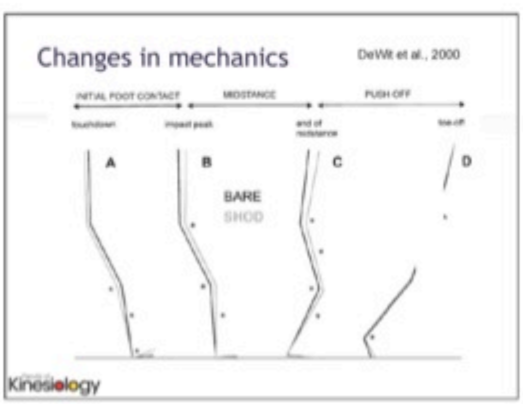
Brigit De Wit[a], Dirk De Clercq[a,*], Peter Aerts[b]

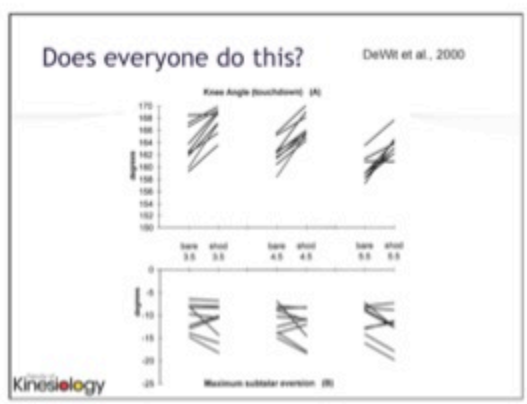
The overarching theme of this lecture was "How do you run when you don't have shoes?" At face value, it's a very simple question but one that demands careful inspection of small changes in one's overall running biomechanics. As can be seen, the lecture content is very limited and involves only a few slides and material taken directly from the research articles. The purpose of the limited lecture material is to ***promote conversation and critical thinking*** amongst the students, as opposed to passively receiving information. On slide #4 two pieces of data are highlighted to help the students focus on an important concept: "What happens to time to maximum loading when your stride length is reduced by only 5cm?" "How does this relate to the potential for injury that was discussed in the previous lecture?" We then finish the lecture by discussing the finding that not all people change their running biomechanics in the same manner. "Why is this?" The concept of individualized-responses to a given stimuli feeds back to the overarching theme for the course, and we have a conversation about how neuromuscular function and anatomical alignment may not allow, or preclude some people to run barefoot. "Why would running barefoot reduce or increase your potential for injury?" Subsequently, the next lecture is focused on how just one muscle, the tibialis posterior, controls foot motion during running and how dysfunction of this muscle influences biomechanics and injury potential.











In order to integrate my teaching philosophy of ***critical thinking*** through ***student-driven learning,*** there is also a large group project worth 30% of the student's final grade. To ensure ***regular two-***

way communication I schedule meetings with each group on three separate occasions and discuss (1) the purpose of presentation, (2) the key primary research articles they have chosen, and (3) the individual assignments/duties for each member of the group. The students are presented with the following material related to the group project:

Purpose of the Group Project
A group project allows for teamwork in class and the opportunity for students to complete a project that goes beyond that which one could do individually. The project is also designed to include tasks and activities from the course that are relevant to clinical biomechanics and clinical practice. Overall, the project is meant to broaden your exposure to different ideas and develop and extend interpersonal and social skills.

Final Product: Each group will present a 10-12 minute presentation, which is approximately 3-4 minutes of individual presentation. The group will also submit a 2-page report on their project along with the 3-4 primary research articles that the presentation is based upon.

Teams: Student groups will consist of 3-4 people and you are free to select your own group members. Groups need to be formed by February 5th. Once a group has formed, the group must decide on a topic for the project. Following this decision, one group member should email me with the following information: team group names and topic of the presentation.

Project Criteria: There are no defined topics but there are some broad, overarching criteria that each project should meet and are summarized below:
1. The article topic must be ***related*** to clinical biomechanics and pathomechanics of a musculoskeletal injury.
2. The 3-4 research articles chosen by the group are intended to synthesize the information in a meaningful, relevant and informative manner. Selection of these research articles is a critical part of the project.
3. The projects cannot be a topic already covered, or about to be covered, in class (see Course Syllabus if you are unclear what these topics include).

Examples of Projects: Some examples could be, but are not limited to, the following

1. Tibial compartment syndrome	2. Low back pain	3. PCL tears
4. Shoes/orthotics for injury prevention	5. Running posture	6. Plantar fasciitis

We will meet as a group on Feb 5th to initially discuss your topic and research articles chosen.

Grading Scheme & Rubrics: Project total: 30% of final grade
Breakdown of Project Grades:
Two-Page Paper – 5%, Presentation – 5%, Peer Review –5%, Project – 15%

PART IV: Evidence of Teaching Excellence

I have been teaching at the University for over 10 years in the faculties of Kinesiology, Nursing, and Engineering and I have taught at all levels of the undergraduate curriculum. I am deeply honored to have received the Student's Union (SU) Teaching Excellence Award on four separate occasions and an Honorable Mention on four separate occasions as well. I have also been recognized by the Faculty of Kinesiology and received the Award of Excellence for Teaching on four separate occasions: the first Assistant Professor to be recognized for outstanding teaching contributions. In 2013, I was inducted into the SU Teaching Hall of Fame and in 2015 I was nominated by the Faculty of Kinesiology and I received the University Teaching Award at the Associate Professor level. Subsequently, I was deeply honored to be invited to join the Teaching Academy.

I am also an active member of the Teaching Academy and one of three leaders for the Open Classroom Week (OCW) program. This group works closely with the Educational Development Consultant within the Taylor Institute for Teaching and Learning with the common goal of supporting the development of individual and collective teaching practices on our campus. During OCW, members of the Teaching Academy open their classrooms up to other instructors from across campus to help them learn new skills and develop as instructors. In a 2015 UToday interview about OCW I stated that OCW "*is an opportunity for us to demystify teaching and recognize the exceptional and innovative, but also recognize the basics*." I also lead a de-brief at the end of OCW so that the participants have an opportunity to ask questions and gain a deeper understanding of teaching practices from the members of the Teaching Academy.

From a research-teaching integration perspective, I was deeply honored to receive the prestigious Natural Sciences and Engineering Research Council of Canada (NSERC) Accelerator Award in 2014. I received this award for my education-research-knowledge translation paradigm and for the development of my international network of clinical and research partners. Selected from over 2500+ Discovery Grant applicants, this award is given once a year to the top 125 scientists in Canada, for work that is "highly original and innovative." Based on this award, in 2015 the National Institutes of Health (NIH) featured my paradigm as the cover story in the prestigious journal Biomedical Computational Review. I am also one of only three international collaborators invited to join The MOBILIZE Center, an NIH Center of Excellence at Stanford University.

Finally, one objective measure of my teaching excellence can be found in the University of Calgary Universal Student Ratings of Instruction (USRI: Table 1). This survey is the course evaluation instrument used to provide a common measure of instruction across all courses and instructors on campus. The table is a summary of the mean scores for the question that asks students to rate the quality of 'overall instruction' for the courses that I have taught since 2009. Also included in this table are the mean scores for overall instruction of comparable courses taught in the Faculty of Kinesiology or Engineering (Faculty) and the number of students enrolled compared to the number of students who provided an evaluation. Scores are on a 7-point scale (1 being unacceptable and 7 being excellent). You can see that each year I receive an overall score that is well above the average for the entire Faculty.

Table 1: USRI Scores for classes spanning back to 2009.

Year	Term	Course Number and Name	Mean Score in Overall Instruction (with comparator Faculty scores)		No. Students Enrolled (Responded)
			Course (/7)	Faculty (/7)	
2016	Winter	KNES 260: Anatomy & Physiology II	6.68	6.10	317 (277)
		KNES 460: Anatomical Dissection	N/A	N/A	8 (N/A)
2015	Fall	KNES 259: Anatomy & Physiology I	6.54	6.18	347 (201)
	Winter	KNES 260: Anatomy & Physiology II	6.69	6.17	335 (272)
		KNES 460: Anatomical Dissection	6.82	6.28	12 (12)
2014	Fall	KNES 259: Anatomy & Physiology I	6.51	6.02	358 (192)
		KNES 460: Anatomical Dissection	N/A	N/A	12 (N/A)
	Winter	Research & Scholarship Leave			
2013	Fall	Research & Scholarship Leave			
	Spring	KNES 460: Anatomical Dissection	N/A	N/A	12 (N/A)
	Winter	KNES 260: Anatomy & Physiology II	6.68	6.15	282 (187)
		KNES 503: Clinical Biomechanics	N/A	N/A	20 (N/A)
		KNES 460: Anatomical Dissection	N/A	N/A	8 (N/A)
2012	Fall	KNES 259: Anatomy & Physiology I	6.56	5.99	368 (275)
		KNES 460: Anatomical Dissection	N/A	N/A	9 (N/A)
	Winter	KNES 260: Anatomy & Physiology II	6.60	6.01	309 (225)
		KNES 460: Anatomical Dissection	N/A	N/A	4 (N/A)
2011	Fall	KNES 259: Anatomy & Physiology I	6.52	5.92	349 (279)
		KNES 460: Anatomical Dissection	N/A	N/A	11 (N/A)
	Winter	KNES 260: Anatomy & Physiology II	6.32	6.35	356 (229)
		KNES 460: Anatomical Dissection	N/A	N/A	8 (N/A)
2010	Fall	KNES 259: Anatomy & Physiology I	6.29	5.87	379 (305)
		KNES 460: Anatomical Dissection	N/A	N/A	12 (N/A)
	Winter	KNES 503: Clinical Biomechanics	6.92	5.81	24 (24)
2009	Fall	KNES 261: Anatomy	6.65	5.91	245 (222)
	Winter	BMEN 309: Anatomy & Physiology for Engineers	6.43	5.45	35 (34)

* Last column is the number of students enrolled in the course followed by the number of students who responded to the USRI survey.

* N/A indicates data were not available to the instructor due to < 25 students enrolled.

Evidence of my passion and respect for the students can also be found in the USRI wherein the highest score I receive each year falls under the category “Students Treated Respectfully.” Over the past 6 years, and across every course I have taught, the average score for this question is 6.91 out of 7.0. I am deeply honored that my students have consistently found me respectful of their needs and that my passion and teaching style has been worthy of nomination for a Teaching Excellence award every year I have been at the University.

PART V: Educational Leadership Philosophies

Throughout my teaching career, I found myself slowly becoming a student of teaching and learning about the different pedagogical practices in order to improve student engagement. Through my discovery and implementation of these practices, other teachers began to talk to me about how to improve their own classes – even the more seasoned instructors. I found that oftentimes a hallway chat would turn into a lengthy discussion over coffee and I began to more regularly share my ideas and practices. Looking back, no one is more surprised than me to see how all of these have led to the development of educational leadership. It’s also given me the opportunity to develop several core philosophical beliefs that guide my educational leadership activities. In brief, they are:

I believe that effective educational leaders build a collaborative community and a shared vision through shared decision making. There are many people with fantastic ideas and the ability to harness those ideas and that positive energy is a powerful tool. However, there is nearly as much value in the naysayers who rock the boat and provide the counterpoint. Good leaders need to embrace the doubters, redirect their energy and ideas, and combine their thoughts with the rest of the group. Leaders find ways to address everyone’s concerns, consider all points-of-view, and combine all ideas to build a shared vision that everyone can get behind.

I believe that effective educational leaders create opportunities for sharing knowledge. With the vast amount of information available to us, sharing that information becomes critical. I believe that by creating opportunities for sharing can we convert information to education and improve the entire process. Moreover, we must foster ‘knowledge giving’ as well as ‘knowledge seeking’ in order to create opportunities for those involved in scientific discovery to share and expand our teaching knowledge base.

I believe that effective educational leaders work with students as partners. With the goal of improving the student experience and increasing engagement, working with students as partners is a powerful and innovative way to lead and teach. I believe that these partnerships must be based on respect and shared responsibility and that they are most successful when we engage the students and consider their insights in meaningful ways.

I believe that effective educational leaders take risks in support of evidence-informed change. I am a firm believer in challenging complacency. When we question the status quo and traditional thinking, we can begin a dialogue that includes different perspectives and innovative ideas. However, innovative ideas and understanding the change process are not the same thing. If you are committed to your own ideas, no matter how innovative they are, you cannot function as a change agent and the process will stagnate.

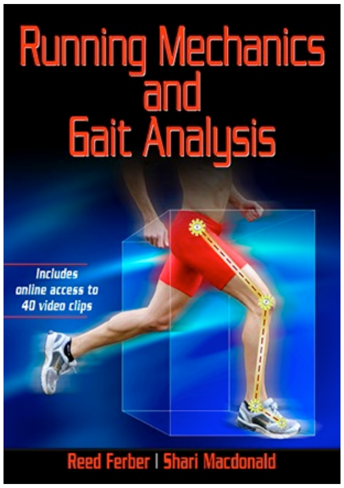
I believe that effective educational leaders engage in regular, two-way communication. Good communication starts with listening. An effective leader begins by understanding each person's point of view, ideas, and desires. By doing so, the ability to find the common shared vision becomes much clearer. It is equally important for leaders to understand that the same strategies that have worked in the past for one person or group, may not work for another. Good leaders listen to the needs of the individual, or group, and determine what they need at that point in time.

Educational Leadership Philosophies in Practice

Building a collaborative community and a shared vision. I developed and lead of a worldwide network of academic researchers and sports medicine practitioners who share a common goal: to improve clinical practice and education through evidence-informed research. This network, and overall knowledge translation paradigm, is centered on the idea that the community of clinicians help drive the research and the academic research helps to improve clinical practice. In this manner, these individuals work together to share knowledge, improve patient care and clinical research, and provide unique opportunities for students, academics, and clinicians. Most importantly, through feedback from the groups of clinicians and researchers I continue to refine and develop a stronger curriculum and collaborative community.

Creating opportunities for sharing knowledge. I have developed and offer professional development workshops to colleagues in the Faculties of Nursing and Kinesiology as well as the Cumming School of Medicine. The "How your exam questions measure up" workshop is focused on the development of effective multiple choice exam questions for large classroom teaching. Another is a workshop called "How to engage your audience" and focuses on research-teaching integration and my evidence-informed approach to delivering an academic lecture. These regularly occurring seminars are a great opportunity for me to share my knowledge but also to promote discussion and hear the participant's ideas and experiences.

Working with students as partners. Within the classroom, each semester I begin the first lecture by stating that "I work for you" and that "my job is to help you succeed." I clearly lay out my expectations and how the course will be focused on the principle of student-driven learning. I also explain how each lecture will involve a conversation rather than simply receiving information from me. I make it absolutely clear that their part of this partnership is to come prepared for each lab and lecture and that my part is to ensure they are respected, treated fairly and that hard work will be rewarded.



Outside the classroom, I have also worked with my students in the creation of a unique curriculum and textbook, which form the foundation of an internationally recognized educational program. The curriculum bridges the gap between research evidence and undergraduate classes such as human anatomy, biomechanics, and rehabilitation sciences. While developing this curriculum I worked to ensure the textbook had sufficient clinical context by inviting one of my MSc students, Shari Macdonald - a gifted sports physiotherapist – to be a co-author. We also developed an on-line continuing education course that challenges the reader and ensures a deeper understanding of the material.

Taking risks in support of evidence-informed change. One of the inherent challenges of teaching human anatomy is that it is, by its very nature, a visual platform. Several years ago I began using the iPad app Visual*Human* for most of my lectures and the students began to immediately respond in a very positive manner. By always seeking new and innovative pedagogical practices, I now use the *Lindsay Virtual Human* developed by the Cumming School of Medicine. Subsequently, the students exhibit a much deeper understanding of the lecture material through advanced technology.

Engaging in regular, two-way communication. One of my greatest challenges as an educational leader at the University was leading a group of Kinesiology and Nursing professors through a curriculum change and the development of a full-year anatomy and physiology course. One of the main challenges was overcoming the long-held belief that anatomy and physiology needed to be taught as separate courses and also developing a course that would service the entire campus community. By carefully listening and considering everyone's comments, drawing on the strengths of each individual's ideas, and through sharing current pedagogical research, we were able to foster a strong relationship amongst the group and over the course of 1.5 years I led the development of the curriculum.

Future Plans for Educational Leadership

I addition to my involvement in the University's Teaching Academy, I also have 2 main leadership initiatives for the immediate future. I believe these goals continue to build on my core beliefs of building a collaborative community, supporting evidence-informed change, and engaging students as partners.

First, I would like to develop a Graduate Assistant - Teaching (GAT) workshop that helps gives these budding instructors more tools to help what is for many of them, their first teaching experience. Lessons in areas such as andragogy versus pedagogy, student-driven learning, and classroom management would help our future instructors as they begin their academic careers and also be of significant benefit to our undergraduate students who are being taught.

Second, I plan to expand the reach and depth of the clinical biomechanics curriculum by developing and offering a number of webinars. I have already provided one webinar in January 2015 and over 2500 people from all over the world logged in to listen and ask questions in real-time. Considering the significant interest and the fact that I only spoke about one chapter of our textbook, there seems to be a fantastic opportunity to deliver more webinars and educate more people through this unique medium.