

Editorial

Why More Anatomy Departments Should Embrace Near Peer Teaching with Interprofessional Demonstrators

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As healthcare delivery requires providers to cross professional barriers and collaborate with other disciplines, there is a recent trend towards an interprofessional training approach of future health practitioners. Healthcare professionals have traditionally been educated separately with limited opportunities for students in one program to meet those in other programs. Although uni-professional education has been demonstrated as important for professional identity formation, it is imperative to allow students from different professional programs to learn with, about and from each other. Professionals need to be trained in the mutual recognition of what each other can bring to function effectively within interdisciplinary teams and how communication with one another can enhance patient outcomes.

Each profession applies their knowledge of anatomy differently. In traditional training models, students are more likely to assume that their understanding of anatomy is the most accurate despite their acknowledgement that other professional students are also learning anatomy in their respective curriculum. The emphasis on specific structures is often different and the clinical scope of each profession for each of those structures also differ. By identifying common ground and complementarities in their knowledge of anatomy, students from different professional programs will ultimately be able to work more collaboratively with each other [1].

Near peer teaching is an educational approach which encourages the development of knowledge through the support of peers who share a common condition such as being enrolled in similar courses or programs but at different stages of their learning [2]. This approach is considered very effective as near peer tutors and tutees communicate more effectively than do teachers and students, due to their cognitive congruence and minimal social distance [3]. Near peer tutors can relate to the tutees' struggles in learning the material being taught. Near peers constitute a source of demonstrators that has been proposed as a solution to the reported decline in the number of clinically-qualified anatomy demonstrators [4-6] and the benefits of graduated medical students demonstrating in the anatomy laboratory has been recognized in many universities around the world for decades now [7-14].

There are many reports of trials having different professional

students taught together by the same lecturer and/or in the same classroom [15-17]. However, many studies on the implementation of shared learning between interprofessional groups reported student concerns about large class sizes and teacher bias in favour of a subgroup [18,19]. Pre-qualification undergraduate students from not only the same professional program but also from other programs have recently been suggested as a potential untapped resource of near peer anatomy demonstrators. By facilitating anatomy sessions, it has been proposed that these tutors would realize that different professions may have complimentary knowledge or enhanced experience in certain areas of anatomy, while tutees would appreciate and mutually respect another profession's understanding of specific anatomical regions. Another benefit for the near peer tutors, as reported by [20], is that they learn the material twice. Teaching the material is also encouraging them to direct their communication skills toward a scaled and appropriate transfer of information which requires a deeper learning of the subject and constitutes an excellent practice for when they answer patients' questions.

McLelland G, et al. [21] reported a near peer teaching experience that crossed professional boundaries with third year midwifery students teaching second year paramedic students. In 2014, both [22,23] demonstrated that senior physical therapy students can successfully facilitate the musculoskeletal anatomy laboratory demonstrations for junior medical students and that medical students can also teach and discuss the anatomy of thorax and abdomen to physical therapy students. This alternate sequence of teaching not only reinforces interprofessional education but also maximises the use of collective resources such as the limited amount of bodies to dissect [24]. By embracing the interprofessional near peer teaching approach, anatomy Departments can adopt a cost effective way of teaching for which a cadaver can be dissected by one group of students who will become the near peer tutors of another professional group using the prosected material that they generated. The former professional group could then dissect another region of the body, for which they should gain more in depth knowledge, prior to facilitating learning of the first group, as described by [11]. This logistic would not only optimize the use of cadavers by each professional program but could also set aside the negative perception of one profession by another, which has been reported among students as early as the entrance to their respective educational programs [25,26]. To further prevent the potential reinforcement of negative stereotypes by the near peer tutors or the tutees during those interprofessional teaching sessions, selection criteria of tutors, such as score to the Readiness for Interprofessional Learning Scale [27], prior participation to teaching training or previous grades for anatomy courses, need to be cautiously determined.

Studies assessing the most effective combination of tutors-tutees and the most appropriate stage of learning for each professional group will be necessary to determine the most effective

implementation of interprofessional near peer instruction. However, near peer interprofessional teaching in the anatomy laboratory can provide Anatomy Departments with a valuable resource to solve their economic constraints related to the availability of cadavers [28], fill the voids left by the scarce availability of clinically-qualified demonstrators, and prevent the low faculty-to-students ratio resulting from the increasing student enrolment. Recently renewed medical curricula emphasize communication skills and interprofessional education which are competing with anatomy teaching for more space in the timetable. By embracing the near peer interprofessional teaching, Anatomy Departments could finally reduce the impact that these curricula are having on the increasing litigation stemming from a lack of fundamental anatomical exposure [29].

References

- Hamilton SS, Yuan BJ, Lachman N, Hellyer NJ, Krause DA, Hollman JH, et al. Interprofessional education in gross anatomy: experience with first-year medical and physical therapy students at Mayo Clinic. *Anat Sci Educ*. 2008; 1: 258-263.
- Naeger DM, Conrad M, Nguyen J, Kohi MP, Webb EM. Students teaching students: evaluation of a "near-peer" teaching experience. *Acad Radiol*. 2013; 20: 1177-1182.
- Youdas JW, Hoffarth BL, Kohlwey SR, Kramer CM, Petro JL. Peer teaching among physical therapy students during human gross anatomy: perceptions of peer teachers and students. *Anat Sci Educ*. 2008; 1: 199-206.
- Lockwood AM, Roberts AM. The anatomy demonstrator of the future: an examination of the role of the medically-qualified anatomy demonstrator in the context of tomorrow's doctors and modernizing medical careers. *Clin Anat*. 2007; 20: 455-459.
- Van Mameren H. Source of future teachers of anatomy. *Anat Rec B New Anat*. 2004; 280: 4-5.
- McCuskey RS, Carmichael SW, Kirch DG. The importance of anatomy in health professions education and the shortage of qualified educators. *Acad Med*. 2005; 80: 349-351.
- Hall S, Stephens J, Andrade T, Davids J, Powell M, Border S. Perceptions of junior doctors and undergraduate medical students as anatomy teachers: Investigating distance along the near-peer teaching spectrum. *Anat Sci Educ* 2014; 7: 242-247.
- Evans DJ, Cuffe T. Near-peer teaching in anatomy: an approach for deeper learning. *Anat Sci Educ*. 2009; 2: 227-233.
- Anstey LM, Michels A, Szymus J, Law W, Edwin Ho MH, Qu F, et al. Reflections as near-peer facilitators of an inquiry project for undergraduate anatomy: Successes and challenges from a term of trial-and-error. *Anat Sci Educ*. 2014; 7: 64-70.
- Reyes-Hernández CG, Carmona Pulido JM, De la Garza Chapa RI, Serna Vázquez RP, Alcalá Briones RD, Plasencia Banda PM, et al. Near-peer teaching strategy in a large human anatomy course: Perceptions of near-peer instructors. *Anat Sci Educ*. 2014.
- Durán CE, Bahena EN, Rodríguez Mde L, Baca GJ, Uresti AS, Elizondo-Omaña RE, et al. Near-peer teaching in an anatomy course with a low faculty-to-student ratio. *Anat Sci Educ*. 2012; 5: 171-176.
- Brueckner JK, MacPherson BR. Benefits from peer teaching in the dental gross anatomy laboratory. *Eur J Dent Educ*. 2004; 8: 72-77.
- Nnodim JO. A controlled trial of peer-teaching in practical gross anatomy. *Clin Anat*. 1997; 10: 112-117.
- Lake DA. Peer tutoring improves student performance in an advanced physiology course. *Am J Physiol*. 1999; 276: S86-92.
- Horsburgh M, Lamdin R, Williamson. Multiprofessional learning: the attitudes of medical, nursing and pharmacy students to shared learning. *Med Educ*. 2001; 35: 876-883.
- Mitchell BS, McCrorie P, Sedgwick P. Student attitudes towards anatomy teaching and learning in a multiprofessional context. *Med Educ*. 2004; 38: 737-748.
- Chan S TK, De Meester L, Lacharite V, Oomen G, Wainman B, Solomon P. Dissecting through barriers: findings from a pilot study on the effect of interprofessional education in a gross anatomy course. *MUMJ* 2011; 1: 11-15.
- Morison S, Boohan M, Moutray M, Jenkins J. Developing pre-qualification inter-professional education for nursing and medical students: sampling student attitudes to guide development. *Nurse Educ Pract* 2004; 4: 20-29.
- Wilson T, Mires GJ. A comparison of performance by medical and midwifery students in multiprofessional teaching. *Med Educ*. 2000; 34: 744-746.
- Krych AJ, March CN, Bryan RE, Peake BJ, Pawlina W, Carmichael SW. Reciprocal peer teaching: students teaching students in the gross anatomy laboratory. *Clin Anat*. 2005; 18: 296-301.
- McLelland G, McKenna L, French J. Crossing professional barriers with peer-assisted learning: undergraduate midwifery students teaching undergraduate paramedic students. *Nurse Educ Today* 2013; 33: 724-728.
- Shields RK, Pizzimenti MA, Dudley-Javoroski S, Schwinn DA. Fostering interprofessional teamwork in an academic medical center: Near-peer education for students during gross medical anatomy. *Anat Sci Educ*. 2014 .
- Krause Pt DA, Hollman Pt JH, Pawlina W, Newcomer KL. Interprofessional education: collaboration or competition? A tale of two experiences. *Curr Sports Med Rep*. 2014; 13: 291-292.
- Greene JR. Effects of detailed information about dissection on intentions to bequeath bodies for use in teaching and research. *J Anat*. 2003; 202: 475-477.
- Rudland JR, Mires GJ. Characteristics of doctors and nurses as perceived by students entering medical school: implications for shared teaching. *Med Educ*. 2005; 39: 448-455.
- Coster S, Norman I, Murrells T, Kitchen S, Meerabeau E, Sooboodoo E, d'Avray L. Interprofessional attitudes amongst undergraduate students in the health professions: a longitudinal questionnaire survey. *Int J Nurs Stud*. 2008; 45: 1667-1681.
- Parsell G, Bligh J. The development of a questionnaire to assess the readiness of health care students for interprofessional learning (RIPLS). *Med Educ*. 1999; 33: 95-100.
- Bryner BS, Saddawi-Konefka D, Gest TR. The impact of interactive, computerized educational modules on preclinical medical education. *Anat Sci Educ*. 2008; 1: 247-251.
- Ellis H. Teaching in the dissecting room. *Clin Anat*. 2001; 14: 149-151.