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Students' Perception of a Theory-Practice Gap in Athletic Training Education

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IOWA ATHLETIC TRAINERS' SOCIETY



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Conflict of Interest

I have no COI to report for this presentation



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Topic Interest

Didactic Education



Clinical Education





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Definition

Theory-Practice Gap

The difference between what students are taught in the classroom setting (theory) and what they experience during clinical placements (practice).^{1, 2, 3}

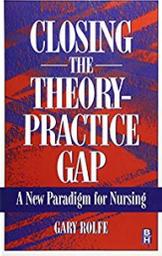


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Past Research



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Reasons for the Theory-Practice Gap



❖ Education/Curricular issues

- ❖ "Ideal" of practice vs. "reality" of practice^{4, 2}
- ❖ "Knowledge by description" versus "knowledge by acquaintance".⁴
- ❖ Differing educational goals. Competence, critical thinkers vs. compliant workers.¹

❖ Knowledge separation between faculty and practitioners

- ❖ Knowledge disparity between what teachers and practitioner value. Know "that" vs. Know "how".^{1, 4}
- ❖ Knowledge 'to become' vs. 'to be' a practitioner.^{1, 4}
- ❖ Decrease in communication especially on the evidence behind what is taught vs. used in clinical setting.⁵

❖ Research development and utilization

- ❖ Generation of research by researchers/educators vs. practitioners.⁷
- ❖ Time lag between development, validation and integration into practice.⁸

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When analyzing the theory-practice gap, it is imperative to remember what is in the middle, i.e., the student trying to learn.



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Problems Created for Students

❖ **Students' reactions**

- ❖ Stuck in the middle⁹
- ❖ Emotional responses
 - ❖ Problematic and confusing⁴
 - ❖ Anxiety, apprehension, worried, dubious¹⁰
 - ❖ Increases stress, especially when starting new rotations¹⁰
 - ❖ Feared being asked to perform a skill they did not already know¹⁰



❖ **Ability to make connections between theory and practice**

- ❖ Difficult time integrating theoretical components in to clinical setting¹¹
- ❖ Frustration spending so much time on theory in class when they want to focus on learning practical skills⁹
- ❖ Torn between the demands of faculty and their practicing nurses¹²
- ❖ More credence to information learned in clinicals. When differs, teacher perceived as being outdated and of questionable credibility.⁸
- ❖ Exposing students to several clinical settings naturally adds variation in clinical procedures causing more disconnect.⁴

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Methods to Bridge the Theory-Practice Gap

❖ **Improving communication and collaboration between faculty/practitioners**^{1, 2, 6, 13}

❖ **Changes in curriculum**

- ❖ Sequencing^{1, 2, 5}
- ❖ Problem based learning¹
- ❖ Reflection activities¹³



❖ **Structure of the faculty/practitioner position**^{1, 14}

- ❖ 'Link teacher' – between classroom and clinical settings²
- ❖ Dual appointments⁶

❖ **Incorporating evidence-based practice**^{4, 9}

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What about Athletic Training Education?



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Related AT Education Research

- ❖ Knight¹⁵ wrote in support of the new EBP requirements
 - ❖ Emphasizing evidence-based content in both the classroom and the clinical setting to better integrate didactic and clinical education.
- ❖ Manspeaker et al.^{16, 17} found:
 - ❖ Athletic training students perceive a gap related to evidence-based practice.
 - ❖ Students felt that what was taught in the classroom was not supported by what they observed in their clinical setting, thus providing some proof of a theory-practice gap in athletic training education.

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In Athletic Training Education

- ❖ Concurrent didactic and clinical education, but are they really connected?
- ❖ Coordinator of Clinical Education
- ❖ Split positions
- ❖ Trained preceptors
- ❖ Increase focus on evidence-based practice

We already 'do' most of the suggestions made by the nursing literature to bridge the theory-practice gap....

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My Research

❖ Little is known about athletic training students' perception between what is taught in the classroom and what is practiced during their clinical experiences.

❖ This gap could have a negative impact on student learning.

The diagram features a horizontal line with a red arrow pointing down above it and a green arrow pointing up below it. The text 'Skill Taught in the Classroom' is positioned above the line, and 'Skill used in the Clinical Experience Setting' is positioned below the line.

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Research Questions

1. To what extent do athletic training students perceive a difference between the information taught in the classroom and what is used in practice?
2. What effect does a theory-practice gap have on athletic training students? If students perceive a theory-practice gap, how do they manage the discrepancy?
3. What source do athletic training students rely on for information? Classroom versus clinical information? Faculty versus preceptors as a source of knowledge?

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Methodology

❖ **Participants:**

- ❖ Students from all 340 Commission on Accreditation of Athletic Training Education (CAATE) undergraduate programs

❖ **Instrument:**

- ❖ Web-based survey tool (Qualtrics)
- ❖ 19 questions; 8 = demographic, 11 = content
- ❖ Selected response, slider scale, open-ended questions

❖ **Procedure:**

- ❖ Program Directors (PD) contacted via email to request participation
- ❖ PDs forwarded the survey link to current students
- ❖ Reminder sent two weeks later
- ❖ Taking the survey served as participant's consent
- ❖ No question had a forced response

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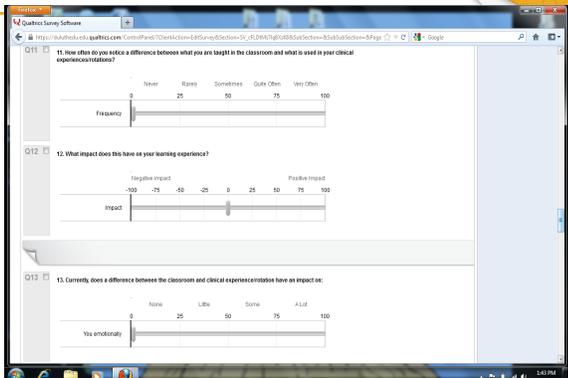
Methodology

❖ Data Processing/Analysis

- ❖ SPSS
- ❖ Quantitative data
 - ❖ Measures of central tendency/measures of variability
 - ❖ Compared experienced and inexperienced students using *t-test* & *chi-square*
 - ❖ *p*-value was set to .05
- ❖ Qualitative data
 - ❖ Grouped and analyzed for common themes



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Results

- ❖ 435 respondents (29% response rate of reporting programs)
- ❖ 298 female (70%), 125 male (30%)
- ❖ 335 age 20-24 (79%), 64 age 16-19 (15%), 24 age 25 or older (5%)
- ❖ All 10 NATA Districts had respondents
 - ❖ District 4 representing 43%, District 5 representing 12%
- ❖ 49% were from Division I institutions
- ❖ 56% attended programs that were 3-yrs long (Professional phase)
- ❖ Completed Semesters
 - ❖ 0-2 completed (inexperienced students) = 53%
 - ❖ 3-7 completed (experienced students) = 47%

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Question 1 - Reminder

To what extent do athletic training students perceive a difference between the information taught in the classroom and what is used in practice?

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Results – Research Question 1

- ❖ 62.8% responded YES, they perceived a difference
- ❖ No significance found by experience level ($p=0.86$)
- ❖ **Perceived difference by NATA Educational Competencies (5th Ed.)**
 - ❖ Therapeutic Intervention, modalities, rehabilitation and pharmacology (45.2%)
 - ❖ Clinical Examination and Diagnosis (39.3%)
 - ❖ Evidence-Based Practice (34%)
- ❖ **Significant findings were found between inexperienced and experienced students.**
 - ❖ Evidence-based practice ($p=.03$)
 - ❖ Therapeutic Intervention ($p=.01$)
 - ❖ Healthcare Administration ($p=.01$)
 - ❖ Professional Development and Responsibility ($p=.05$)
- ❖ **Frequency:** slider scale from zero (never) to 100 (very often)
 - ❖ 68% fell b/w 22 and 61 (rarely to sometimes/quite often); ($M= 41.57, SD=19.51$)
 - ❖ No significance between experience level

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Question 2 - Reminder

What effect does a theory-practice gap have on athletic training students? If students perceive a theory-practice gap, how do they manage the discrepancy?

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Results – Research Question 2

❖ Impact on Students
 -100 (negative) ————— 0 ————— +100 (positive)

- ❖ 68% of responses fell b/w -12.8 to +76.2 ($M = 31.7, SD = 44.5$), slightly (+)
- ❖ No significance found by experience level ($p=0.65$)

❖ Emotional Effect ($M = 29.9, SD = 24.6$)
 0 (none) ————— 50 ————— 100 (a lot)

- ❖ Any response over 25 (a little) led to a open-ended question to explain their emotions
- ❖ 125 written responses; Stress ($n=28$), frustration ($n=22$), confusion ($n=20$), question things ($n=9$), decrease confidence ($n=9$)
- ❖ $n=10$ described positive emotion (see and learn things in a multitude of ways)

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Results – Research Question 2

❖ Impact on: (0-100 slider scale)

- ❖ Learning of content/knowledge ($M = 41.2, SD = 28.8$)
- ❖ Learning of skills ($M = 44.1, SD = 27.8$)
- ❖ Performance of skills ($M = 46.4, SD = 29.0$)
- ❖ Taking written/practical exams ($M = 40.8, SD = 29.6$)
- ❖ No significance found by experience level in any impact area

❖ How Students Handle Any Differences ($n = 328$)

- ❖ Ask questions ($n = 200$)
- ❖ Find the positive side of it ($n = 55$) "Try to make the best of it"
- ❖ Separate information; "information to become an AT vs. information to be an AT" ($n = 16$)

❖ How Differences Affect their Learning over Time ($n = 315$)

- ❖ Over 70% felt the theory-practice gap had a positive impact on LOT

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Question 3 - Reminder

**What source do athletic training students rely on for information?
 Classroom versus clinical information?
 Faculty versus preceptors as a source of knowledge?**

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Results – Research Question 3

❖ Classroom Versus Clinical

-100 (classroom) ————— 0 ————— +100 (clinical)
both

- ❖ Only 3 of the 8 NATA Competency areas leaned *slightly* towards the classroom (EBP, Prevention & Health Promotion, Healthcare Administration)
- ❖ All had very large Standard Deviations – leaning towards clinical information

❖ Faculty Versus Preceptors

-100 (faculty) ————— 0 ————— +100 (preceptor)
both

- ❖ Only 2 of the 8 NATA Competency areas leaned *slightly* towards the faculty (EBP and Healthcare Administration)
- ❖ All had very large Standard Deviations – leaning towards preceptors

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Is a theory-practice gap negative or positive?

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From the Students' Perspective

The Negative....

- ❖ "I separate things in my mind into "classroom" and "rotation." In other words, I try to recognize information that is actually going to be of [sic] value apart from information that I just need to memorize and recall for an exam, then forget."
- ❖ "It feel like the academic faculty are so far removed from the way things actually are in a clinical setting that it was hard to view them as credible and resourceful."
- ❖ "In the beginning I would mention it, but over time it became apparent that how we are taught is more often than not, not how we will do things as ATs, so I stopped mentioning it."
- ❖ "Where ever I am, (clinical/classroom), I do things the way that place likes them done," or "When working with a specific certified, I go along with their way of thinking when I am at their rotation."

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From the Students' Perspective!

The Positive....

- ❖ "I think they (classroom and clinical) go hand in hand. Often the book taught method helps you understand the clinical method. So while you may not use the book method taught directly, it's forming the base for what you are learning clinically."
- ❖ "It has opened my eyes to the fact that sometimes there are many different ways to do something and evidence-based practice is vitally important."
- ❖ "It actually has taught me to see the world through different viewpoints and causes me to think analytically and critically about WHY I do what I choose to do"
- ❖ Makes me "think outside the book".



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Take-Away Points for the Profession

- ❖ The theory-practice gap is perceived by 62.8% of students
- ❖ The majority (70%) of students eventually see it as a **positive** entity
 - ❖ n=89 felt the differences provided multiple ways to look at the same information
- ❖ 30% (n=73) perceive a negative impact on their learning
 - ❖ Confusing, waste of time, frustrating to learn one way and then told its wrong in the opposite setting
- ❖ Athletic training students rely more heavily on information from their clinical experiences and from their preceptors



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Take-Away Points for the Profession

- Perhaps then, the goal is not to close the theory-practice gap, but to continue fostering the positive outcome it has on our students and minimize the stresses it created for others
- "Theory without practice is sterile, practice without theory is blind" ⁴



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Take-Away Points for the Profession

We can bridge the theory-practice gap by having practitioners increase their factual knowledge, having educators increase their practice knowledge, and allowing students to gain experiential knowledge through meaningful interactions with both. ⁸

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Discussion/Questions



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Student Panel

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