The experiences of pre-licensure or pre-registration health professional students and their educators in working with intra-professional teams: A qualitative systematic review

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Executive summary

Background

Numerous inter-professional initiatives permeate the health care landscape, requiring professionals to collaborate effectively to provide quality patient care. Little attention has been given to intra-professional relationships, where professionals within one disciplinary domain (with more than one point of entry-to-practice) collaborate to provide care. New care models are being introduced where baccalaureate and diploma students of a particular discipline (such as nursing, occupational therapy, dentistry, or physiotherapy) are working closely together in teams to deliver care. Questions thus arise as to how students and educators learn to work on intra-professional teams.

Objectives

To identify and synthesize evidence regarding experiences of pre-licensure health professional students and their educators on intra-professional teams, and to draw recommendations to

enhance policy and/or curriculum development.

Inclusion criteria

Types of participants

Pre-licensure students and educators, focusing on regulated health professions which have more than one point of entry into practice.

Phenomena of interest

Experiences of intra-professional team learning or teaching within various entry-to-practice categories of a particular health-related discipline.

Types of studies

The review considered qualitative studies, including but not limited to designs such as phenomenology, grounded theory, ethnography and action research.

Types of outcomes

The outcomes are in the form of synthesized findings pertaining to experiences of pre-licensure health care students and educators with intra-professional teams.

Search strategy

A comprehensive search of various databases was conducted between 2 June 2015 and 16 August 2015, and repeated in March 2016. The search considered all studies reported and published from 1 January 2001 to 7 March 2016. Only studies published in English were included in this review.

Methodological quality

Papers selected for retrieval were assessed by two independent reviewers for methodological validity prior to inclusion in the review using the Joanna Briggs Institute Qualitative Assessment and Review Instrument.

Data extraction

Data were extracted using the standardized data extraction tool from the Joanna Briggs Institute Qualitative Assessment and Review Instrument. The data extracted included descriptive details about the phenomena of interest, populations, and study methods.

Data synthesis

Research findings were pooled using the Joanna Briggs Institute Qualitative Assessment and Review Instrument. Study findings that were supported by the data in primary studies were organized into categories on the basis of similarity of meaning. These categories were then subjected to a meta-synthesis to produce a set of synthesized findings.

Results

Eight studies were included in the review. Sixty-eight findings were organized into nine categories based on similarity of meaning. Four synthesized findings were produced: (i) Contextual factors (including pedagogical approaches and timing of experiences) may influence experiences of intra-professional learning, (ii) Shared learning opportunities contribute to comprehensive care planning and more efficient patient care, (iii) Intra-professional learning helps to build collaborative relationships and understanding of roles, and (iv) Intra-professional learning is beneficial; however, it also created frustration for students.

Conclusions

Despite its challenges, shared learning experiences assisted students in understanding each other's roles, develop communication and collaborative competencies, develop comprehensive care plans, provide more efficient care, and helped prepare them for their future roles as health care professionals. Various contextual elements could either hinder or facilitate shared learning experiences.

ConQual Summary of Findings

Systematic review title: The experiences of pre-licensure or pre-registration health professional students and their educators in working with intra-professional teams: A qualitative systematic review

Population: Pre-licensure students and educators, focusing on regulated health professions which have more than one point of entry into practice

Phenomenon of Interest: Experiences of intra-professional team learning or teaching within various entry-to-practice categories of a particular health-related discipline

Context: how health professional students (baccalaureate and diploma) and their educators experience intra-professional teamwork in Canadian and similar contexts including the United States of America (USA), Australia, Great Britain, New Zealand and Nordic countries: Denmark, Finland, Sweden, Iceland and Norway

Synthesized finding	Type of Research	Dependability	Credibility	ConQual Score
Contextual influences and their significance for intra-professional learning	Qualitative	Downgrade 1 level*	Downgrade 1 level**	**Low**
Intra-professional learning as a means to improve patient care planning and providing nursing care	Qualitative	Downgrade 1 level*	Downgrade 1 level**	**Low**
Intra-professional learning impacts the building of collaborative relationships and understanding of roles	Qualitative	Downgrade 1 level*	Downgrade 1 level**	**Low**
Perceived benefits and challenges of intra-professional learning	Qualitative	Downgrade 1 level*	Downgrade 1 level**	**Low**

*Downgraded one level due to common dependability issues across the included primary studies (all studies had no statement locating the researcher and no acknowledgement of their influence on the research)

**Downgraded one level due to mix of unequivocal and credible findings

Introduction

Background

Nursing education and practice are influenced by the complexities inherent in the need to provide professional care to patients, families and communities in varying contexts across the globe. While numerous initiatives under the umbrella of health care reform (such as inter-professional practice and collaborative practice) are addressed in nursing literature, there has been less attention paid to exploring relationships between categories of nurses (such as registered nurses and licensed practical nurses) who are expected (through regulation and discourses of intra/inter-professional practice) to effectively engage in collaborative practice.[1-3] While other health care professionals are also encouraged to engage in collaborative, inter-professional practice[4-6] there is little literature available which discusses intra-professional experiences of professionals within various health care programs. Thus, questions are raised as to how inter-professional, intra-professional, and collaborative practice are conceptualized in literature, but also how students and educators experience intra-professional relationships while in pre-licensure health care education programs.

Intra-professional practice is not consistently defined in the literature. Some authors refer to intra-professional practice as students from differing years of a particular program (such as a baccalaureate nursing program) engaging in learning together, whether in classroom, clinical or community contexts.[7-9] Leaders from the Center for the Advancement of Interprofessional Education[10] describe inter-professional education as two or more professions learning with, from and about each other but do not address intra-professional learning. While it is expected that inter-professional education will indeed result in improved outcomes for not only patients but health care professionals and the health care system, Martin Saarinen[11] suggests that the predominating movements towards adoption of inter-professionalism have overlooked the significance of exploring intra-professional education, such as collaborative nursing programs, with registered nursing (RN) students and practical nursing (PN) students learning together. Thus, for purposes of this review, intra-professional education will be defined as various categories of students under one disciplinary umbrella, such as nursing (which would include RNs, licensed practical or vocational nurses (LPNs/LVNs), and registered psychiatric nurses) engaged in learning processes together in various educational contexts (classroom, clinical, community or simulation laboratory). Other disciplinary umbrellas with potential relevance for this review could also include physiotherapy (physiotherapy students and physiotherapy assistant students), occupational therapy (occupational therapy students and occupational therapy assistant students), and dentistry

(dental students, dental hygiene students, and dental assistant students).

While there are initiatives, guidelines and regulatory documents which support inter-professional practice,[12-15] less attention is given to research regarding intra-professional practice in both educational (pre-licensure) and practicing (post-licensure) contexts. DeMarco,[16] in discussions regarding *intra-professional alliances*, suggests that intra-professional relationships (which involve a relational contract based on respect and commitment) need to be promoted in nursing programs. Further, DeMarco suggests that there is a need to "broaden understandings of patient outcomes by exploring them as part of a context of work relationships with each other".[16(p.177)] The National League for Nursing acknowledges the significance of collaborative relationships in health care but also recommends that nurse leaders focus on inclusivity of nurses (LPN/LVNs and RNs) by developing intra-professional learning experiences where students of various nursing-related educational programs learn side-by-side. New models of academic progression are called for, where "nurse educators and clinical practice partners work together to create new models of academic progression". [3(para. 3)]

While there remains a significant focus throughout the literature on inter-professional collaboration, Wackerhausen[17] suggests that inter-professional collaboration is impeded by barriers created by ineffective intra-professional relationships. The development of intra-professional relationships has been linked to how professional identity is created and maintained within individual professions. According to Wackerhausen, professional identity development based on first-order reflection involves self-affirming activities which maintain the status quo, whereas second-order reflection is achieved through utilizing expanding conceptual resources which increases the perspectives from which one can reflect. It is only within second-order reflection, Wackerhausen argues, that intra-professional practices can be effectively developed through which inter-professional relationships can evolve. Similarly, Powell and Davies,[18] in a study exploring experiences of acute pain service team members, found that "intra-professional boundaries (within each of the medical and nursing professions) hindered collaborative working among doctors and limited the influence that the acute pain service nurses could have on improving the practice of other nurses".[18(p. 807)]

Thus, there are discussions regarding a need to explore relationships between and among various categories of health care providers in order to support effective working relationships which ultimately impacts patient outcomes. In Canada, changing care delivery models in various acute care contexts (with the introduction of increasing numbers of LPNs and health care aides) impacts intra-professional working relationships.[19,20] While it is important to explore these relationships among working nurses, it is also significant to explore how they experience these relationships as students, whether these

experiences better prepare students for the workplace, how they are perceived to impact patient care, and how their educators experience these relationships. Questions arise as to if, and how, these relationships are appropriately supported in educational contexts,[21-23] and the conduct of this review can provide important insights (benefits and/or challenges) into how intra-professional collaboration is experienced by both students and educators.

Currently, there is little research that addresses intra-professional relationships among categories of pre-licensure nursing students. There are currently no systematic reviews available on this topic. However, our preliminary searches did find several qualitative studies within physiotherapy, occupational therapy, and dentistry that provided qualitative findings related to experiences of intra-professional collaboration, as well as a literature review exploring inter- and intra-professional relationships. Therefore, the focus of this systematic review is to explore how all health professional students and their educators experience intra-professional practice before students graduate, become licensed/ registered as a health care professional, and enter the workforce. The objectives, inclusion criteria, and methods of analysis for this review were specified in advance and documented in our protocol.[24]

Objectives

The aim of this review was to identify the experiences of pre-licensure or pre-registration health professional students and their educators of intra-professional teams.

More specifically, the objectives were to identify the evidence on:

1. The experiences of pre-licensure or pre-registration health professional students about learning how to work in intra-professional teams.

2. The experiences of health professional educators about teaching intra-professional collaboration across categorical and/or regulatory boundaries of professional groups.

The specific question for this review is:

What are the experiences of health professional students and educators learning to work in intra-professional teams?

Inclusion criteria

Types of participants

The qualitative component of this review considered studies that included pre-licensure health professional students' and educators' experiences of intra-professional teams. We defined pre-licensure health professional students as those students enrolled in a health-related diploma or degree program leading to the writing of a licensure or registration exam prior to engaging in practice (i.e. regulated health care provider programs). Health related programs that were included were those that have multiple points of entry-to-practice under one disciplinary domain. This could include (but was not

limited to) disciplines such as dentistry, nursing, medicine, occupational therapy, pharmacy, physiotherapy or social work. Thus, we considered studies that include experiences of students and educators working in various disciplinary domains (such as dentistry, medicine, nursing, occupational therapy pharmacy, or physiotherapy) focusing on regulated health professions which have more than one point of entry into practice for their students (e.g. baccalaureate degree and diploma). This review did not include studies which describe students of a particular disciplinary domain (i.e. nursing) engaging in collaborative learning with students from varying years of a particular or single baccalaureate or diploma program. We excluded literature that pertains to any health care student who is already licensed but engaged in post-licensure continuing education or higher degree programs. Our intent was to focus on students' experiences in an initial diploma or degree program in order to become a health care professional, as well as educators who teach in these contexts.

Types of intervention(s)/phenomena of interest

This qualitative review considered studies that investigate how pre-licensure students and educators experience intra-professional collaboration among various entry-to-practice categories of a particular discipline. As expectations continue for various healthcare professionals to collaborate effectively in their workplaces, this review focused on instances where intra-professional collaboration or teamwork is experienced in pre-licensure educational contexts and how this collaboration or teamwork was experienced. This review can provide important insight for educators regarding how best to prepare health professional students for practice in various shifting health care contexts.

Types of studies

This review considered interpretive studies that draw on the experiences of health professional students and educators with intra-professional teamwork including, but not limited to, designs such as phenomenology, grounded theory, ethnography, action research and feminist research. Qualitative findings from evaluation research (including mixed methods studies) and peer-reviewed case reports were included when they report on the relevant learning experiences of students or educators.

Search strategy

In July 2014, a preliminary search of the literature was undertaken with the guidance of a research librarian. The CINAHL and Medline databases were searched in order to ensure that relevant literature with qualitative findings could be found for this review. The search was intentionally kept broad due to the various ways that inter/intra-professional, inter/intra-disciplinary and collaboration are conceptualized in the literature. The reviewers decided to err on the side of caution by searching more broadly and reviewing a larger number of abstracts for inclusion in the study. In this way pertinent literature would not be erroneously excluded from the search.

Upon review of the abstracts and search terms for results from the above search, it became evident that large numbers of articles pertaining to inter-professional education or practice were found but they did not include findings on intra-professional experiences of students or educators. Thus, a revised search was performed with the assistance of a research librarian in February, 2015, removing the terms related to "interprofessional" from the search, and adding "intraprofessional collaboration". In consultation with the research librarian, the search strategy was further refined, and outlined in detail below.

The search strategy aimed to find both published and unpublished studies. A three-step search strategy was utilised in this review. The initial limited search of MEDLINE and CINAHL noted above (July 2014), preceded subsequent analyses of the text words contained in the title and abstract, and of the index terms used to describe articles. A research librarian (also a JBI certified reviewer and team member) assisted with refining search terms and strategies. The MEDLINE and CINAHL searches were then repeated in June, 2015. A second search using all identified keywords and index terms was then undertaken across all included databases in July and August, 2015. Searches of all databases were most recently repeated in March, 2016 which resulted in an additional 26 studies to be screened. See Figure 1 below for the most recent specific search dates for the various databases.

Thirdly, the reference list of all identified reports and articles were searched for additional studies, which resulted in 17 studies which were reviewed for possible inclusion. Studies published in English were considered for inclusion in this review. Studies published in other languages were tallied (but not translated) to provide an indication of the availability of international literature available on students' and educators' experiences related to intra-professional practices. There were nine studies that were found in other languages.

Studies published ≥ January 1, 2001 were included in this review.

The databases that were searched included:

CINAHL, Health Source: Nursing/Academic Edition, ERIC, Medline (Pubmed), TRIP, Web of Science, PsycInfo

The search for unpublished studies included:

Grey literature sources such as government websites, OCLC PapersFirst for conference papers, OCLC Proceedings First for conference proceedings, Proquest Dissertations and Theses, the New York Academy of Medicine Grey Literature Collection, nursing education websites (such as the Canadian Association of Schools of Nursing), MedNar, and Google Scholar.

Initial keywords that were used included:

intraprofessional relations*; intraprofessional collaboration; intraprofessional or intra-professional*; student*; faculty or instructor*; education.

Database	Most Recent Search Date
CINAHL, Health Source: Nursing/academic Edition, MEDLINE, PsycINFO, ERIC	4 March 2016
TRIP	4 March 2016
Web of Science	4 March 2016
OCLC PapersFirst	4 March 2016
Proquest Dissertations & Theses	4 March 2016
NYAM Grey Literature Collection	5 March 2016
MedNar	5 March 2016
Google Scholar	4 March 2016
Nursing Education Websites (CASN, AIPHE, ANA, CNA, Australia College of Nursing, Nursing & Midwifery Board of Australia, New Zealand Nurses Organisation, Finnish Nurses Association, Nursing in Scandinavia) Government Websites (Canadian Nursing Students Association, Canadian Public Policy Collection, GPO, WHOSIS, OECD, World Bank Documents & Reports, Eurostat, Government of Canada)	4-7 March 2016

Figure I: Search Dates for Databases

Method of the review

Assessment of Methodological Quality

Qualitative papers selected for retrieval were assessed by the primary and secondary reviewers for methodological validity prior to inclusion in the review using standardised critical appraisal instrument from the Joanna Briggs Institute Qualitative Assessment and Review Instrument (JBI-QARI) (Appendix II). Any disagreements that arose between the reviewers were resolved through discussion, and/or with a third reviewer who is also a certified JBI systematic reviewer.

Following the appraisal of the selected studies, the reviewers met and clarified their interpretation of the appraisal tool and discussed discrepancies in scoring. This included clarifying standards for inclusion or exclusion for the review, and whether certain critical appraisal questions should be considered essential for inclusion in the review. In discussions with the team, and considering areas of qualitative research expertise, as well as the larger literature landscape, it was decided to err on the side of inclusion and not specify any particular appraisal questions which were essential for inclusion for this review.

Data extraction

Qualitative data was extracted from papers included in the review utilizing the standardised data extraction tool from JBI-QARI (Appendix III). The data extracted included specific details about the

interventions, populations, study methods and outcomes of significance to the review question and specific objectives.

Descriptive data that were extracted included the following:

- Study type
- Country and setting where the study was conducted (geographical and cultural)
- Participants (number, baseline demographics, age group and ethnicity)
- Phenomena of interest
- Author's conclusions

Qualitative study findings were extracted as themes, declarations, or statements identified by the authors of each study. The presentation of the themes varied, sometimes appearing as headings and sub-headings in the paper. These findings were extracted with one or more illustrations from the text to support the finding.

All findings were assigned one of three levels of credibility according to the following criteria:

- Unequivocal (U) - Assigned if the findings were related to the evidence beyond reasonable doubt, including findings that were matter of fact, directly reported/observed and not open to challenge. These findings were supported by illustrations in the form of direct quotes from participants where the quote from the participant clearly supported the finding extracted.

 - Credible (C) - Assigned to those findings that were, albeit interpretations, plausible in the light of the data in the study and/or the theoretical framework. They could be logically inferred from the data. These findings were supported by a direct quote from a participant.

- Unsupported (Un) - Assigned in cases where the study author's finding was not congruent with or supported by identifiable data. These findings were presented without any supportive data or text.

Unequivocal and credible findings were included in the meta-synthesis; findings that were deemed to be Unsupported were not considered for inclusion in the final synthesis.

Data synthesis

Findings were considered to be identifiable themes, metaphors, statements, or declarations made by authors that arose from the analysed data. Studies in which findings were not identifiable, or studies which had findings without support with illustrations were excluded. Qualitative research findings were identified (by repeated reading of the papers), assigned an accompanying illustration, assigned a level of credibility, and subsequently pooled using JBI-QARI. This involved the aggregation or synthesis of findings to generate a set of statements that represent that aggregation, through assembling the findings rated according to their quality, and categorising these findings on the basis of similarity in meaning.

Since this systematic review was completed as part of the primary author's doctoral dissertation, the primary author extracted all findings, created categories from the findings, and then discussed these with her supervisor (the secondary reviewer) for peer review, in order to maintain transparency and validity of the process. Categories and synthesized findings were then shared with the larger team. Creating categories was an iterative process whereby the primary reviewer reviewed and categorized the findings and illustrations 5 times (using posters) in order to be thoughtful about the process and to facilitate discussion with the team. Final categories were then iteratively subjected to a meta-synthesis, which was also discussed with the secondary reviewer, in order to produce a single comprehensive set of synthesised findings that can be used as a basis for evidence-based practice.
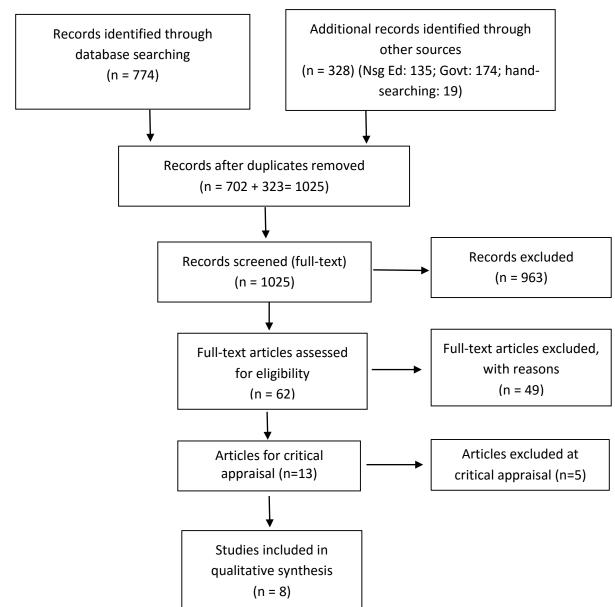
Results

Description of Studies

The results of the search and study selection process are illustrated in Figure 2 (PRISMA diagram) which outlines the process of study search, selection, retrieval, appraisal, and synthesis. As shown in Figure 2, 1102 papers were found from searching all of the noted databases and hand-searching reference lists of retrieved (n=62) full-text articles. After the removal of duplicates, 1025 articles remained. Due to the specific way in which the intra-professional relationship was defined for this review, reading only the abstracts of literature for potential review was often inadequate, as the type of intra- or inter-professional relationships under study were often not addressed in the abstract. Thus, the primary reviewer found it necessary to read the full text of all 1025 articles that were found in the various searches as a way to screen and determine whether intra-professional relationships between students were outlined and applicable for this review. Frequently it was only after reading an entire paper that one could determine whether the pre-licensure intra-professional experiences (as described for inclusion in this review) were being addressed within each paper. In one case, the author[23] was contacted to confirm whether there was intra-professional learning in her research (she confirmed that there was not), as it was not clear from reading the thesis. Overall, after this initial round of screening, 1012 papers were excluded for not meeting the inclusion criteria.

After reviewing 1025 articles, 62 articles remained that possibly met the inclusion criteria and required further full-text examination by team members. The primary reviewer reviewed all 62 articles; a secondary reviewer (working with an undergraduate student) reviewed 28 of these articles; a third reviewer assessed the remaining 34 articles. Appendix VI outlines the studies that were excluded (with reasons for exclusion) after review of these 62 studies. Thirteen papers[26-38] subsequently remained to be critically appraised by the primary and secondary reviewers. Appendix V includes those studies which were excluded[33-37] at the critical appraisal stage utilizing the QARI appraisal instrument (Appendix II). Appendix IV outlines the 8 papers[26-32,38] included in this systematic review.

PRISMA 2009 Flow Diagram

Identification

Records identified through database searching
(n = 774)

Additional records identified through other sources
(n = 328) (Nsg Ed: 135; Govt: 174; hand-searching: 19)

Records after duplicates removed
(n = 702 + 323= 1025)

Screening

Records screened (full-text)
(n = 1025)

Records excluded
(n = 963)

Eligibility

Full-text articles assessed for eligibility
(n = 62)

Full-text articles excluded, with reasons
(n = 49)

Articles for critical appraisal (n=13)

Articles excluded at critical appraisal (n=5)

Included

Studies included in qualitative synthesis
(n = 8)

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed100009

Figure II: Flow-chart for the search and study selection process

Characteristics of Included Studies

Appendix IV outlines the main characteristics of each included study. This section that follows describes the characteristics of the studies as a set. Seven studies were published within the last 10 years (ranging from 2006-2015); one study was published in 2002. Four studies[26,27,31,32] were mixed method designs and utilized surveys or questionnaires, reflective essays, or focus groups for data. Three studies[,28-30] were qualitative program evaluations, including two studies[28,29] identified as qualitative descriptive studies that utilized thematic and content analysis respectively. The third evaluation study[30] was a program evaluation of a combined fieldwork placement model. These authors used thematic analysis as outlined in their data analysis discussion. A final qualitative study[38] was a critical analysis of how nursing educational discourses influence intra-professional relations between diploma and baccalaureate students.

Of the four studies utilizing mixed method designs, two were clearly identified by authors[26,27] as a mixed methods study. The remaining study authors[31,32] described their methods in terms of survey utilization (with quantitative data analysis) with added focus groups[32] or reflective essays[31]. Three studies[27,31,32] included focus group questions as an appendix; the fourth mixed-methods study[26] referred to a script for the focus groups however did not include it in the published document.

Regarding the qualitative studies, the authors of one study[28] did not explicitly refer to a qualitative methodology, however referred to qualitative data analysis of pre-and post-placement interviews and journals utilizing thematic analysis with NVivo 8© software (QSR International) to identify themes and patterns. The second study[28] was identified by authors as qualitative, in which students' journals were inductively analysed utilizing retrospective content analysis. In the third qualitative study[30] the authors also utilized retrospective content analysis for creating codes and categories from data. The authors[38] of the fourth qualitative study (a critical analysis of educational discourses influencing intra-professional relations) referred to Smith's approach, in addition to discourse analysis, for revealing enacted discourses in social contexts. Reflective writing and interview data were iteratively analyzed after diploma and baccalaureate nursing students experienced a joint educational event.

In the qualitative program evaluation study[30] of a combined fieldwork student placement model, the authors utilized journal and focus group data for analysis (with journals being noted as the primary data collection tool), and noted how tutor and clinical educator data were utilized in order to increase perspectives and create a more comprehensive picture of the student experience. Students were encouraged to address guiding questions in their journals. The authors note that trustworthiness was addressed through member-checking in order to ensure that information was translated correctly and not misinterpreted

In considering the underlying epistemological underpinnings of the qualitative studies, the authors of one study[28] expressed how they analyzed student journal data in addition to interview data in order to add breadth to understanding and explore the range of experiences of the paired student clinical placements. In the second qualitative study[29] guidelines for student journal writing were minimal with respect to outlining type and amount of content (students were not bound to report on specific issues), with a minimal expectation of two journal entries per week during clinical placements. Data were then inductively analyzed, in that the authors argue that the themes arise from the data rather than being imposed on the data. Authors of the third qualitative study[30] included tutor and preceptor data to provide more comprehensive understanding. Participants were encouraged to write freely and openly in their journals; however, the authors did provide guiding questions. Categories created from a retrospective content analysis were member-checked with participants to enhance trustworthiness. Authors of the critical analysis paper[38] iteratively analyzed data to reveal social processes that structure and influence boundaries between categories of nurses and contribute to division instead of collaboration. Authors analyzed data for instances where knowledge and professional hierarchies were activated by students to categorize other groups of nurses.

With respect to the epistemological underpinnings of the mixed methods studies, one study[27] utilized a coding frame to create categories and themes, and subsequently utilized a software program to establish consistency. Homogeneous focus groups were also conducted by external facilitators with scripts, in order to limit bias. Authors also stated how data were triangulated in order to verify trends. Authors of another study[26] noted how their mixed method design was utilized for establishing a more comprehensive understanding of findings, however did also note that focus groups were conducted by independent, third-party facilitators who were given written scripts to maintain consistency in interviewing. Homogeneous focus groups were noted, in which categories of students were in separate focus groups. Similarly, authors of the third mixed-methods paper[32] note how key ideas from homogeneous focus group interview data (obtained with semi-structured interviews with open-ended questions) were summarized for member checking, in order to ensure data accuracy. Additional researchers also were asked to confirm the analysis to limit bias and ensure accuracy in the analysis. In the final mixed-method study,[31] authors note how patterns of meaning were identified from reflective essay data, from which codes were developed by two researchers working independently in order to address credibility and trustworthiness.

In summary, this synthesis of the existing qualitative evidence related to pre-licensure students and educator experiences with intra-professional education is based on studies utilizing various qualitative methods including some studies with either unspecified or perhaps implicit epistemological underpinnings.

Intra-professional learners:

Of the eight studies included in this review, two studies[26,27] examined the experiences of various categories of students in dental programs (dentistry, dental hygiene, dental assistant or dental technologist); three studies[28,31,32] examined physical therapy and physical therapy assistant students learning intra-professionally, and two studies[29,30] examined occupational therapy and occupational therapy assistant students' experiences with intra-professional learning. The final study[38] examined nursing students' experiences of intra-professional learning as influenced by enacted educational discourses.

Educator experiences:

Of the eight included studies, three[28,30,31] included educators, preceptors, and/or tutors as participants in their study. One study[31] outlined instructor participants completing reflective essays in addition to students; another study[30] had tutors complete journals (in addition to students) and had preceptors participate in focus groups; a third study[28] included instructors as participants, however only provided student illustrations to support findings.

The eight included studies were conducted in three different developed countries. Four[28-30,38] were conducted in Canada, three[26,31,32] in the United States of America, and one[27] in Australia.

A majority of the studies (6/8) explored the experiences of students and educators in major metropolitan areas.[26-30,32] One study[31] did not state a specific city, only a southern US state. One study[38] took place at a college in a Canadian province, but no specific location was noted. Intra-professional learning settings included university and college classroom/lecture/lab settings[26,27,32,38] and various clinical settings. In one study, students were in fieldwork placements in acute inpatient, long term care, and rehabilitation;[29] in another study, students were placed in adult acute or mental health in-patient settings.[30] In the remaining two studies the clinical settings were not specified beyond stating they were fieldwork settings.[28,31]

Methodological Quality

As seen in Table 1, (results of the critical appraisal of the eight included studies), none of the studies (by a mark of 'Y') met all ten of the questions in the appraisal instrument. It is worth noting that while JBI and others[37,42] suggest that *high quality* qualitative studies meet the criteria of 1) having statements that locate the researcher culturally or theoretically; and/or 2) include statements that addressed the researchers' influence on the research (and vice-versa), *none* of our studies met these criteria (questions #6 and #7 of the critical appraisal instrument - Appendix II). Worth noting, however, is how potential, implicit epistemological underpinnings discussed earlier, could have influenced whether authors felt it necessary or appropriate to address the above two criteria.

It is significant to consider that performing critical appraisal of qualitative research remains controversial[39-42] and hence it may not be fruitful to exclude studies based on failing to meet certain/all questions in the critical appraisal. Rather, it is useful to utilize these questions to discuss the overall quality of the presented research in the context of a particular systematic review as well as in the context of available papers and team judgment.[42,44,45] The Joanna Briggs Institute notes that their process of critical appraisal addresses overall research rigor and reporting; it is also significant to consider how reporting of research can vary, depending on epistemological assumptions of the researcher and expectations for reporting. Thus, in consultation with our team, and reviewing the literature to understand current best practices of those engaging in qualitative syntheses and/or thoughts surrounding critical appraisal, we did not exclude any study for failing to meet all of the 10 questions. We also did not specify certain questions which were essential to be met in order to be included in this systematic review. Rather, we considered the overall value of the included papers against the available pertinent papers that were reviewed, while also maintaining sensitivity to the questions surrounding quality appraisal and epistemological assumptions inherent in the reviewed papers.

The following provides an overview of the results of the study appraisals for each question:

- One study[38] met criteria one, which assessed clear congruity between the research methodology and philosophical perspectives; underlying philosophical perspectives were not clearly addressed in the remaining seven studies
- All but one study[28] met criteria two, which is an assessment of congruity between the research methodology and the research question or objectives
- All eight studies met criteria three, which assessed congruity between the research methodology and methods
- All eight studies met criteria four and five, which assessed congruity between the research methodology and representation and analysis of data; and congruity between the research methodology and interpretation of results
- None of the included studies included statements that located the researcher(s) culturally or theoretically
- None of the included studies addressed the researchers' influence on the research (and vice-versa)
- All of the studies adequately represented participants' voices
- Six[25, 27-30,38] out of eight studies clearly demonstrated conclusions that clearly flowed from the analysis or interpretation of the data

To summarize the overall quality appraisal of the eight included studies, the evidence base utilized in

this systematic review is of moderate standard, as all of the studies met (Y) or possibly met (U) a majority of the critical appraisal questions. As the idea of critically appraising qualitative research remains unresolved in the larger systematic review landscape, we feel that it is important that all eight studies be included as they all offer useful findings (supported by data) that are important to inform practice and/or policy, and provides a breadth of understanding. However, the main source of potential bias regarding the validity of primary qualitative studies on which this report is based, relates to potential influence of researchers over interpretation of study findings, and/or unrecognized epistemological assumptions of primary researchers.

Table I: Critical Appraisal Questions for Included Studies

Citation & Rating	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Brame, Mitchell, Wilder, & Sams (2015)[26]	U	Y	Y	Y	Y	N	N	Y	Y	Y
Evans, Henderson, & Johnson (2012)[27]	U	Y	Y	Y	Y	N	N	Y	Y	U
Jelley, Larocque, & Patterson (2010)[28]	U	Y	Y	Y	Y	N	N	Y	Y	Y
Jung, Sainsbury, Grum, Wilkins, & Tryssenaar (2002)[29]	U	U	Y	Y	Y	N	N	Y	Y	Y
Jung, Salvatori, & Martin (2008)[30]	U	Y	Y	Y	Y	N	N	Y	U	Y
Limoges & Jagos (2015)[38]	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Mathews, Smith, Hussey, & Plack (2010)[31]	U	Y	Y	Y	Y	N	N	Y	Y	Y
Plack, Williams, Miller, Malik, Sniffen, McKenna, & Gilner (2006)[32]	U	Y	Y	Y	Y	N	N	Y	Y	U
%Y **%U**	0.0 100.0	87.5 12.5	100 0.0	100 0.0	100 0.0	0.0 0.0	0.0 0.0	100 0.0	87.5 12.5	75.0 25.0
Y=yes **N=no** **U=unclear**										

Meta-synthesis of Findings

The objective of this review was to identify and synthesize the best available evidence on experiences of pre-licensure or pre-registration students and their educators with intra-professional learning. A total of 67 relevant findings addressing the question of interest were extracted from the included studies. From the 67 relevant findings, 61 were deemed to have an unequivocal level of credibility and 6 were deemed to have a credible level of credibility. Although 22 additional unsupported findings were noted during extraction, they were excluded from this review as they were not supported by data/illustrations. Thus, there were no unsupported findings included in this review. All the unequivocal and credible findings were supported by data presented in the studies, and were hence were pooled to generate synthesized findings (see Table 2). Findings were assigned to more than one category, depending on their relevance in meaning to each category, as reflected in the total (89) in the table noted below. The following table provides an overview of the levels of credibility in each synthesized finding. The meta-synthesis represents a selection of student and educator experiences from Australia (1 paper), Canada (4 papers), and the United States of America (3 papers).

Table II. Summary of evidence credibility for all synthesized findings

Synthesized Finding (SF)	Unequivocal	Credible	Unsupported	TOTAL
SF 1	25	1	0	26
SF 2	8	1	0	9
SF 3	32	4	0	36
SF 4	16	2	0	18

Meta-synthesis of the findings from the eight studies generated four synthesized findings, after the findings were grouped into user-defined categories created on the basis of similarity in description of student or educator experiences with pre-licensure intra-professional learning. The four synthesized findings were derived from nine categories developed by considering similarity of meaning across the 68 study findings. All the study findings with supporting illustrations are listed in Appendix VII.

The synthesis results are presented below. The presentation is organized by synthesized findings. For each synthesized finding a description of the categories derived from the findings is provided. Some illustrative participant voices that informed the primary study findings are also offered to enhance understanding the dimensions of the experience captured by each synthesized finding.

SYNTHESIZED FINDING #1

Contextual influences and their significance for intra-professional learning:

Although many students are not currently exposed to intra-professional learning experiences, they see these as potentially important experiences to assist understanding of others' roles, prepare them for the workplace, and help to develop their professional identity. Various approaches to shared learning (role-playing, pre-placement orientation sessions, tutorials, journal writing, and shared clinical placements) were noted to assist students develop team-building, communication, leadership, and supervision skills. Intra-professional role modelling by tutors in educational settings also assisted students in understanding their respective roles, and in developing collaborative relationships.

Students were concerned, however, that intra-professional experiences might be added to curricula without a full pedagogical redesign, which would create added time pressures to overloaded programs. Some final-year baccalaureate students suggested that it is not necessary to include intra-professional learning experiences. Other baccalaureate students felt disadvantaged in their knowledge level when partnered with diploma students who had already had some clinical experiences in their program. Students also noted how current learning experiences were very hierarchical and segregated. Despite the challenges, students suggested that shared learning experiences were worthwhile.

The first synthesized finding was derived from two categories underpinned by a total of 26 findings. A summary of each of the two categories is provided below, together with a few key illustrations that support them. Full details of findings and illustrations are presented in Appendix VII.

CATEGORY 1.1: Various approaches to learning, such as role-playing, 2:2 clinical pairing, journal writing, and tutorials + fieldwork may facilitate intra-professional collaboration

This category was developed from 21 findings with similar meaning. These findings indicated that various pedagogical approaches were utilized that students found helpful in understanding roles and developing collaborative relationships. Pre-placement orientation sessions, where students initiated relationships with peers and tutors, was noted as assisting with building trust and enhancing clinical partnerships. Role-playing activities helped students to understand their colleagues' perspectives and also to broaden their understandings of roles and responsibilities of team members. Topics discussed in lecture/tutorial sessions were significant to students understanding of team roles, however it was also noted that topics such as delegation and utilization were presented in their diploma program, but not the baccalaureate program. Clinical 2:2 pairing (one diploma student; one baccalaureate student; one diploma tutor, and one baccalaureate instructor) was noted to assist the development of collaborative and supervision skills of students. Journal writing assisted students in working through and reflecting upon difficult or challenging issues that arose during their intra-professional learning experiences, and some students noted (in their journals) frustration related to working with other student groups.

Despite the challenges of shared learning, students supported and valued the continuation of the experience. Timing of shared learning experiences was also noted to be a concern, as those with less clinical experience felt intimidated by those who had previously had fieldwork experiences in their program.

Illustrations of the experience described by the findings in this category:

"I think the scenarios [were most helpful]. The class before we learned about their roles…but actually putting that in to a scenario or practice is, I think, helpful"[32(p7)]

"Even if it were 2 weeks or 1 day or a month that we go out there…there has to be more of that real life situation, not just the textbook…the PT and PTA [student] spending time together. I just think that that day showed what could be possible, and that was the first step in the right direction"[32(p8)]

"The PTAs [diploma students] had more of a sense of the differences between our practices, they get more, training at it. It's brought up to them a little bit more"[32(p7)]

"All oral health professionals need to have a common base knowledge and an understanding of what each profession does, therefore by sharing education sessions this bridge can be closed"[27(p243))]

"I felt a little underprepared. It was hard to try and keep up with specifics of things where we really didn't know what we were talking about. It was hard to explain. The PTAs [diploma students] have more experience, they are more knowledgeable than we are, and it's kind of intimidating"[32(p7)]

CATEGORY 1.2: Considering collaborative/shared learning models

This category was developed from 5 findings with similar meaning. When asked about shared, intra-professional learning, students expressed support for the need to learn together. Some students noted how current experiences were very segregated and hierarchical, and that it would be beneficial to have students integrate together for learning. Students also expressed reservations about shared learning experiences not being an 'add-on' into already heavy programming, but part of a larger curricular re-design process. There was strong support by various students that intra-professional learning would be beneficial in preparing them for the workplace after graduating from their program.

Illustrations of the experience described by the findings in this category:

"I don't know how feasible the [shared learning model] is. We're already busy. To add more things for us to learn…it's just too much"[26(p620)]

"[Integrated learning] is just important for us to get us prepared for our real jobs…because that's what we're going to be doing every day if you're in private practice or even if you're in a public health setting. But I don't think we are very prepared for that coming out of school right now"[26(p622)]

"We tend not to do anything with the RN students so we're automatically segregated when we get here. There's a class distinction and I don't really see integration between the two types of students"[38(p1025)]

SYNTHESIZED FINDING #2

Intra-professional learning as a means improve patient care planning and providing nursing care:

Experiencing intra-professional learning in clinical environments was noted by students to help clarify roles, develop trust, and improve communication and teamwork, which supported the development of comprehensive care plans for patients. Students felt that by developing positive intra-professional teams, more efficient and effective patient care could be provided by both members working together. There were concerns, however, regarding the experiences of diploma students in shared academic environments who felt that communication between the professional groups was poor, including exclusion from various events, which they felt negatively impacted patient care.

The second synthesized finding was derived from two categories underpinned by a total of 9 findings. A summary of each of the two categories is provided below, together with a few key illustrations that support them. Full details of findings and illustrations are presented in Appendix VII.

CATEGORY 2.1: Intra-professional student collaboration may improve team communication and care planning to provide improved patient care

This category was developed from 3 findings with similar meaning, including that students expressed how working collaboratively gave them a greater sense of teamwork, understanding of others' roles, which assisted in collaborating to write more comprehensive care plans that would support the delivery of care by both student groups. By communicating patient assessment experiences with each other, students could generate care plans that incorporate more than one perspective.

Illustration of the experience described by the findings in this category*:*

"This is a major example of how each discipline and education level may have different views, levels of knowledge, and reasoning, but still can come together as a team respecting these differences and form a very complete and creative plan for a client"[30(p47)]

CATEGORY 2.2: Intra-professional learning experiences may enhance communication and teamwork to improve patient care

This category was developed from 6 findings with similar meaning in terms of intra-professional learning experiences enhancing communication and teamwork to improve patient care. Students felt that by learning together as a team they could provide increasing comprehensive and efficient care, and some

voiced excitement about being part of a new way of educating health care professionals. Included in this learning partnership is a recognized need for on-going communication between the students.

Illustrations of the experience described by the findings in this category:

"Collaborating on patient care and following a patient through from evaluation to discharge allowed for an opportunity to see the whole process unfold and which person's responsibility it is for certain parts of the process. Knowing what each person can legally do and what portions of that process can be delegated provides swifter and more effective patient care"[31(p55)]

"The partnership that needs to exist for the students to provide care to clients is one of trust and an agreement on consistent, thorough, and concise updates on clients between OT and OTA [students]. We have worked on this in our arrangement, which is great…this focused time on communication has been very useful for organizing proper client care"[29(p99)]

"I felt excited to be part of this pilot experience because I felt as though we were pioneering a new concept for educational institutions…it gave me a vision of how OT practice in Canada is developing to become more efficient and perhaps more effective for our clients"[29(p100)]

SYNTHESIZED FINDING #3
Intra-professional learning impacts the building of collaborative relationships and understanding of roles:

Clinical experiences were noted to play a powerful role in either supporting or hindering the development of intra-professional relationships. Students experienced increasing hierarchies as they continued through their intra-professional educational program and felt that attitudes of academic staff reinforced divisions between categories of students. Students valued intra-professional experiences for helping them learn current clinical practices. Various shared learning activities (including pre-placement orientation sessions involving peers, preceptors and tutors; tutorials; role playing; and paired clinical experiences), helped to build feelings of trust and respect among students. Students noted that collaboration improved their communication and consultation skills, through a better understanding of the other groups' educational background and role. Instructors noted that intra-professional learning experiences provided insight into future staff development priorities, and how experiences are needed that will prepare students to work in teams. Although sometimes frustrating, students recommended continuing collaborative learning experiences as they developed a greater appreciation and respect for the relationship among the two categories of professionals. From a critical analytic perspective, educational discourses enacted by students (and reinforced by academic environments) undermined the development of intra-professional collaboration (note illustrations under 3.2).

The third synthesized finding was derived from three categories underpinned by a total of 36 findings. A summary of each of the three categories is provided below, together with a few key illustrations that support them. Full details of findings and illustrations are presented in Appendix VII.

CATEGORY 3.1: Learning and communication may lead to increased trust, appreciation, and respect among intra-professional student groups

This category was developed from 9 findings with similar meaning. Students found that learning together facilitated feelings of respect and trust towards each other and although sometimes frustrating, they felt learning together remained valuable in appreciating the relationship.

Illustrations of the experience described by the findings in this category:

"They [students] appeared very comfortable together like old friends; they laughed, looked at and touched each other frequently. They complimented one another and spoke of their mutual respect. They indicated that they did not have similar working relationships with other staff and students. They were all very positive about their experiences and recommended that this working model be mandatory"[30(p47)]

"It [shared learning] fosters us to start thinking about the preferred relationship with the PTA [diploma student]. The workshop teaches you how important both of us [PT and PTA students] are…we are one unit working together toward the same goal"[32(p7)]

CATEGORY 3.2: External influences such as academic, clinical, workplace settings, and interactions with others intersect to influence intra-professional learning

This category was developed from 14 findings with similar meaning, related to contextual influences (including social processes and enacted discourses) which intersected with intra-professional learning. Instructors noted how witnessing intra-professional student relationships in practice helped to identify future planning of staff development activities and needs, as well as the realization of their influence as a role model for intra-professional interactions. Students noted that as they began their intra-professional experiences, they were on equal footing with peers; however, as they progressed through their programs, there was increasing hierarchies noted in the workplace. Students felt that these hierarchies were reinforced by academic staff, and that the clinical environment was very influential in either supporting or hindering intra-professional relationships, including who might be a nurse. Hierarchical 'talk' by students as to how categories of students were 'the same' was noted to reinforce the status quo and suggested power inequities between student groups. Organizational structure of clinical sites intersected with the students' abilities to work together intra-professionally, as instructors noted how these structures controlled the frequency, duration, and quality of their interactions with each other. Students voiced concern that, without attention to an overall re-design of the curriculum and/or program, adding in intra-professional learning activities would only overload

their already heavy programming. From a critical analytic perspective, educational discourses enacted by students (and reinforced by academic environments) undermined intra-professional collaboration. Student conversations activated talk of nursing categorization and hierarchies (skill vs. theory, college vs. university) which undermined facilitation of learning intra-professional collaboration. Students questioned the motives behind why, despite being taught that collaborative practice improved patient safety and outcomes, they were denied this educational experience.

Illustrations of the experience described by the findings in this category:

"It would be very short-term and limited benefit and there would be a lot of time gone that's kind of wasted. If they [diploma students] were to hang out with us [baccalaureate students] when we are treating patients, it might be good for them [diploma students] for the first couple of times, but after that I think they wouldn't get anything out of it and having them there would certainly not help us"[27(p243)]

"It appears that despite the stated goals of [our] research study, the [hospital] organization structure determines the students' ability to work collaboratively by controlling the frequency, duration, and quality of their interactions"[30(p47)]

"Being able to witness various types of PT-PTA [baccalaureate-diploma] student interactions was also helpful to me as a [clinical educator] in planning staff development activities. The project made me rethink how I as a clinical educator serve as a role model for [intra-professional] student interactions"[31(p56)]

"It's like, this is what you're going to do in the workplace, you're going to be working with these individuals, but we're not going to tell you what their role is or how they are going to do it, you're just going to have to figure it out on your own"[38(p1025)]

"I think we see that we are all equal, that there really is no other category that we are all the same. There's nothing different about us"[38(p1026)]

The BScN program can perpetuate division by focusing on the importance of a degree education. The impression is given that the RN is more important, a more useful member of the healthcare team"[38(p1025)]

CATEGORY 3.3: Intra-professional learning may impact instructors' roles and understandings of teaching collaboration

This category was developed from 13 findings with similar meaning. Intra-professional and collaborative experiences provided learning opportunities for instructors or preceptors to learn about roles. Students noted how tutors or instructors played an important role in facilitating intra-professional discussions which assisted student learning. Students felt that instructors did not always assist in addressing boundaries and tensions in working relationships between categories of students, which maintained the

status quo and did not assist in developing understandings of professional boundaries. Differences in curricula were noted, with baccalaureate students discussing how diploma students learn about delegation and roles among students within their program, however baccalaureate students did not have opportunities for this learning in their program. Pre-placement orientation sessions were helpful in initiating intra-professional relationships not only with students, but also with preceptors and tutors. The actual experience of intra-professional collaboration among students was felt to be significant for improving relationships.

Illustrations of the experience described by the findings in this category:

"I think that this project provides a very interesting method of learning, and that it is effective because each student learns both the OT and OTA aspects of the field. It provides both an opportunity to learn, by this I mean not only the students, but also the clinical supervisors. While speaking to my supervisors, I learned that for them, this was an opportunity to explore along with the students how an assistant could be used in various areas of practice"[29(p100)]

"The tutors were quite helpful in stimulating the group with discussions and helping us phrase out our thoughts so that they would be meaningful to the groups' learning"[30(p47)]

The PTAs [diploma students] had more of a sense of the differences between our practices, they get more, training at it. It's brought up to them a little bit more"[32(p7)]

"Reading is not enough. The experience of sharing and collaborating [in the clinical and tutorial setting] was the clinching factor to improved relationships and appreciation of each other's roles"[30(p47)]

"If I were to straight out ask that question [are you an RN or an LPN], it would probably be more uncomfortable to the person who I'm asking it to. They might respond by saying, 'oh, I'm just an LPN', instead of saying, 'yes, I am an LPN'. It's almost like they're not proud of their status"[38(p1025)]

SYNTHESIZED FINDING #4
Perceived benefits and challenges of intra-professional learning:

For diploma students, collaborative learning opportunities assisted them in understanding and articulating their own role, as well as those of their baccalaureate student partners. Both diploma and baccalaureate students found that working together helped to clarify misconceptions about the diploma students' role and its potential impact on the practice of baccalaureate-prepared students. Baccalaureate students felt that having more intra-professional learning experiences would assist in being able to negotiate and understand scopes of practice of the diploma students once in practice. Both groups of students noted that intra-professional learning helped them articulate role differences and similarities.

There were notable difficulties experienced with intra-professional learning. Lack of role clarity early in intra-professional experiences made learning frustrating, as did a lack of understanding of others' roles and sharing preceptors. Students also felt that poor communication between groups, relating to a lack of respect and exclusion of diploma students as equal learning partners, created frustration. Students noted that lack of consistency in education and in provision of patient care did not provide learning experiences which would prepare them to work in teams. Both baccalaureate and diploma students experienced discomfort and resistance with baccalaureate students' supervisory role element, possibly resulting from tensions in practice and the role stratification within the profession. Timing of intra-professional learning is significant, in that students felt that matching groups so they had similar academic and clinical experiences would decrease one student group feeling disadvantaged over the other.

The fourth synthesized finding was derived from two categories underpinned by a total of 19 findings. A summary of each of the two categories is provided below, together with a few key illustrations that support them. Full details of findings and illustrations are presented in Appendix VII.

CATEGORY 4.1: Initiating and maintaining intra-professional learning relationships may be frustrating for students

This category was developed from 12 findings with similar meaning. Students reflected upon past learning experiences and felt that they did not adequately prepare them to work effectively on teams. Both student groups expressed frustration at a lack of understanding of their role by the other; by sharing a preceptor that led to feelings of compromised learning; that gaps in communication between professional groups was tied to lack of respect; and that diploma students were sometimes excluded from on-campus activities that were meant for both baccalaureate and diploma students which made them feel unwelcome. Learning about others' roles was difficult due to lack of role clarity for both student groups, although this did improve over time. Apprehension and frustration were expressed for those graduating, over concern about knowing little about the other team members' roles in practice.

Both baccalaureate and diploma students were uncomfortable and resisted the supervisory element of baccalaureate student practice, which students felt reflected real-life practice and the results of stratification of roles within the discipline. Frustrations were also noted by baccalaureate students, who felt disadvantaged when paired with diploma students who had already had previous clinical placements. It was noted how matching groups of students with similar amounts of clinical experience would have been more beneficial. Diploma students voiced frustrations with the limited clinical knowledge of baccalaureate students, while baccalaureate students voiced concerns about the over-confidence of the diploma students. Journal writing was found to be an area where students often voiced their frustrations regarding intra-professional learning. Lastly, in a critical analysis of enacted collaborative education discourses, it became evident that students attempted to reconcile tensions by activating boundary work by activating hegemonic positions of nursing categories.

Illustrations of the experience described by the findings in this category:

"Once we had established approximately where our professional boundaries overlapped and where they separated, we were able to accept what each other was doing"[29(p99)]

"I had some issues on defining roles, delegating duties, providing constructive feedback, etc. I told [my preceptor] that I was uncomfortable supervising as a student to another student as I have not done that before"[29(p101)]

"They [diploma students] have more [clinical] experience, they are more knowledgeable than we are and it's kind of intimidating because they're saying 'this is a fact, I've been out there, I know' and then I was like 'OK, should I just take it for granted because you (ie, the PTA students) do have more knowledge? I mean, right now you know a lot more about it than I do"[32(p8)]

"Some of them [diploma students] …were getting a little aggressive which automatically turns me off and makes me angry…I kind of got a negative view. They kind of came to us like 'well, we've done all this, we know all this'"[32(p7)]

"There's just not enough interface in play for us to have any respect. You have to know somebody before you can respect them. And…there are several dental hygienists I've never seen before. And that's sad. You can't respect someone without working with them several times or at least knowing who they are"[26(p621)]

"When I go into the hospital, I noticed that the bedside manner is missing from the RN. I see that the RN is so much in front of the computer…I don't see that the RN is with the patient. And this makes little sense to me if they are supposed to be looking after the complex patients. Sometimes I think the RN is a glorified secretary. I'm very surprised at how little the RN wants to be at the bedside. People say that the BScN program is to learn to be an administrator"[38(p1026)]

CATEGORY 4.2: Intra-professional learning may help in clarifying misunderstandings of roles by other student groups

This category was developed from 6 findings with similar meaning. Learning together assisted both student groups to clarify misunderstandings and increase appreciation of the roles of each student. By working together, diploma students voiced how baccalaureate students voiced surprise at the capabilities of the diploma students, as well as how diploma students had some similar elements in their education/curricula (such as client-centeredness) as the baccalaureate programs.

Illustrations of the experience described by the findings in this category:

"The [diploma student] had increased opportunity to interact with the team and to experience various types/degrees of supervision…it opened my eyes to some of the misconceptions students and experienced therapists have about our evolving clinical roles. Unfortunately, many PT [baccalaureate] students have very limited knowledge about the roles/practice of PTAs [diploma students] and know even less about their academic preparation"[31(p55)]

"I am happy I went through that day. The PT [baccalaureate] students were very surprised at the training we had. It was great for them to realize who we are and what we are capable of doing"[32(p7)]

"It was interesting to learn that they [diploma students] were familiar with concepts that are so widely used in the OT [baccalaureate] program (like client-centeredness) and that they have to know a lot of the same things that we learn about"[30(p47)]

Discussion

This review identified and included 8 qualitative studies, all of moderate methodological quality, that have addressed the question of pre-licensure students and their educators' experiences of learning to work on intra-professional teams. The included studies together provided a body of evidence that was then analyzed and synthesized to address the question. More specifically, a total of 67 findings about intra-professional experiences were extracted from the studies, which were organized into nine categories based on similarity of meaning and then subsequently aggregated into four synthesized findings, each describing a different key feature or element of the multi-dimensional and complex experience that emerged from the existing qualitative studies. Directly below is a summary of the essence of the experience captured in each of the four synthesized findings.

i) Contextual influences and their significance for intra-professional learning*:*

The evidence revealed that students felt that having opportunities to learn intra-professionally would help them learn about each other's roles, help prepare them for the workplace, and assist them in developing professional identities. Various shared learning processes (such as role playing, orientation sessions, tutorials, journaling, tutor role modelling, and shared clinical placements) were significant in providing various ways of engaging intra-professionally. However, adding on shared experiences, without consideration to the larger pedagogical landscape, was a concern for students, as they felt that this would overload their already heavy programs. The timing of intra-professional experiences was important to students, as some groups felt disadvantaged if they had experienced less clinical experience than the students they were paired with for intra-professional experiences. Students noted their segregated learning experiences, which they felt interfered with future working relationships, and a discursive analysis noted the use of the term 'segregated' by students due to its historical ties to oppression and repression. Despite the difficulties experienced with intra-professional learning, students felt that shared learning experiences were worthwhile.

ii) Intra-professional learning as a means to improve care planning and patient care:

The purposes of intra-professional learning included assisting with clarifying roles, developing trust and respect, and improving communication and teamwork. Evidence reveals that these positive shared learning experiences in clinical environments ultimately assisted students in developing comprehensive care plans and perceptions of providing more efficient and effective patient care. However, in academic environments, students noted poor intra-professional communication among groups and diploma students felt excluded by baccalaureate students with respect to on-campus activities that were to be for both groups. Diploma students felt that this experience could have a negative impact on patient care.

iii) Intra-professional learning may build collaborative relationships and understandings of roles

According to the evidence, various processes for intra-professional learning (tutorials, orientation sessions with tutors, shared clinical placements, role playing, and journal writing) facilitated collaborative relationships and assisted students to understand and appreciate each other's roles. Feelings of trust and respect for the contributions of each student evolved from intra-professional consultative communication. Instructors found this learning beneficial for preparing students for working in teams after graduating, and also in considering future staff development activities. However, students also questioned why they were not exposed to intra-professional learning experiences, despite being taught that collaboration improved patient safety and patient outcomes. Power inequities were revealed as students activated hierarchical and categorical 'talk' to describe nursing categories, or utilized 'sameness' talk, both of which undermined the development of collaborative relationships.

iv) Perceived benefits and challenges of intra-professional learning

Evidence revealed that lack of role clarity early in intra-professional learning experiences, lack of understanding of each other's roles, and sharing preceptors were frustrating for students. Diploma students felt that communication with them by baccalaureate students was often poor, due to lack of respect and acceptance as equal learning partners which increased diploma students' frustration. Inconsistent shared learning experiences within varied programs and clinical contexts negatively impacted students' experiences learning teamwork. Tensions in practice and role stratification within professions created resistance and discomfort with baccalaureate students' learning to supervise diploma students as part of their role. To reconcile the tensions, students activated limiting, hegemonic positions regarding the other categories of nurses.

Evidence reveals that both diploma and baccalaureate students found that shared learning experiences helped them to better articulate similarities and differences among their roles. Baccalaureate students found that having more shared learning experiences helped them better understand scopes of practice of diploma students which would better prepare them for practice. The evidence also revealed that both

groups of students found shared learning experiences clarified misconceptions of the diploma student role and its potential impact on the baccalaureate student role.

Interesting for the reviewers, was the critical, discursive paper[38] which offered a view of intra-professional learning experiences from a slightly different lens. This more interpretive perspective, revealing how discursively constructed social processes within education are enacted by students to reveal power inequities and division, helps to disrupt the normalizing discourses of teaching and learning intra-professional collaboration. Thus, the primary reviewer, in addition to a secondary and associate reviewer, discussed how this paper fit or not fit with this systematic review. Clear findings were noted (identified as social processes, somewhat consistent with the underlying philosophical perspective of the paper) that related to learning intra-professional collaboration.

The authors'[38] analysis of reflective journal entries and interview data sought to reveal how student experiences were organized via enacted educational texts and/or discourses. Included in this analysis were findings that did reflect intra-professional student experiences; it was these findings that were extracted (with supporting illustrations) for this systematic review. However, it is worth noting that it is the analytic lens that provided a means by which the authors were able to disrupt the everyday 'talk' or work of being a student and expectations for learning to collaborate. This particular approach enables understandings on another dimension of experience – one of how the everyday activation of educational texts and conversations/discourses organized or framed students' intra-professional experiences. Thus, it is through this analytic lens that the authors revealed how students activated boundary talk, which revealed power relations and created division (instead of collaboration) among categories of students. So, since students did talk about their experiences of intra-professional collaboration (and there were clear findings), it was felt that this paper met our inclusion criteria for this systematic review.

Limitations

The English language limitation means that studies published in other languages (of which there were nine) were excluded. The understanding of pre-licensure student and educator experiences of learning to work on intra-professional teams generated by this review is based on qualitative evidence from a relatively narrow range of countries. While the intention of this review was to draw evidence from countries with similar contexts to Canada (including the USA, Australia, Great Britain, New Zealand, Denmark, Finland, Sweden, Iceland, and Norway), only studies from three countries, namely Canada, Australia, and the United States (US), were identified. Of the 8 studies, 6 were conducted in metropolitan and urban areas with one study only identifying a Southern US state and another not specifying a particular city in a Canadian province. This suggests that the findings are therefore more transferable to the urban setting and metropolitan areas than rural settings. It therefore cannot be assumed that the findings of this synthesis apply to all other countries where cultural and health care contexts may differ. Therefore, it is important to be aware of the differing contexts.

The findings of the review are based on an adequate number of studies (8) of moderate quality, therefore they appear to offer a reliable perspective of student and educator experiences of learning intra-professional teamwork. Although the impetus for this review originally came from an interest of the primary reviewer to pursue understandings of intra-professional learning experiences of nursing students, there were few papers available on this topic within nursing, and some that were available did not meet the inclusion criteria due to not having identifiable findings and supportive illustrations.

One gap of this systematic review is that included papers pertained to experiences of students and/or educators only within the disciplines of nursing, dental health, physiotherapy, and occupational therapy. A second gap in the literature relates to data and/or findings pertaining to educator experiences. The majority of findings for this review related to student experiences, with much less attention given to the experiences or attitudes of educators, preceptors, and tutors. The critical analysis paper[38] raises further questions regarding the role of educators and educational discourses or conversations, which require further exploration for their role in introducing or sustaining conversations that may influence the development of collaborative relationships between categories of students.

A third gap relates to the availability and quality of literature for this review. While reiterating the earlier discussion regarding the unresolved issues surrounding quality appraisal of qualitative research, it is also worth noting that only one of the papers included in this review had explicit, clearly stated philosophical underpinnings. Thus, questions arise as to whether there are implicit, unstated assumptions of the authors, or whether authors have addressed these underpinnings as part of their research planning and execution. Studies were sometimes identified as mixed methods or qualitative; others did not state a specific methodology but rather described the study in terms of surveys and focus groups, or program evaluations. Also relating to unstated or implicit epistemological underpinnings, was how some authors[26,27,32] utilized homogeneous groups of students for focus group data.

This review did not include patient and/or family experiences of working with student care teams in various contexts. This remains a significant area for future research in light of current shifts in some acute care areas where new care models have been introduced and unregulated health care workers are joining care teams.

Conclusion

The synthesized findings regarding students and educators learning to work on intra-professional teams reveal that despite its challenges, students found that shared learning experiences assisted them in understanding each other's roles, develop communication and collaborative competencies, develop comprehensive care plans, provide more efficient care, and helped prepare them for their future roles as health care professionals. Various contextual elements could either hinder (hierarchies in practice, academic staff attitudes, inconsistent shared learning activities, lack of understanding or respect of roles, timing of shared experiences) or facilitate (tutor role modelling, clinical/classroom pairings, role

playing) shared learning experiences. This review raises possibilities for directions for future research, in addition to supporting certain recommendations for practice.

Implications for practice/education

The timing of this review is significant, as changes to care models and team configurations are occurring in some health care contexts.[19,20] As care models and teams continue to shift, it becomes significant to consider how students, as well as educators, can be best prepared to work within these shifting team contexts, in addition to understanding how changing health care teams impact patient care. Recommendations are outlined below for assisting to prepare students and educators. The findings in this review suggest that:

- Educators introduce pre-licensure intra-professional shared learning activities (such as role-playing, pre-placement orientation sessions, tutorials, journal writing, and shared clinical placements) as part of larger pedagogical and curricular re-design, to assist the development of collaborative working relationships for practice (Grade B)
- Educators consider the appropriateness and significance of educational levels/clinical experience of each student group prior to the introduction of intra-professional learning activities (Grade B)
- Clinical and academic educators further explore contextual, cultural, attitudinal, discursive, and/or institutional elements which may hinder/support the development of collaborative intra-professional student relationships (such as clinical hierarchies; educational silos and discourses; poor communication between student/educator groups; tutors as role models; intra-professional learning as valuable to students; assisting role and scope of practice clarification/understanding; increasing trust and respect; and perceptions of improved care planning, teamwork, and care provision) (Grade B)
- Clinical and academic educators consider the development of student practice models which could assist in the development of intra-professional collaborative competencies (Grade B)

Implications for research

The motivation for this systematic review was to understand the diverse experiences of pre-licensure health professional students and their educators learning to work on intra-professional teams. There is a need for further qualitative studies to develop a clearer understanding of not only pre-licensure students' experiences, but also the experiences and attitudes towards intra-professional learning among educators of baccalaureate and diploma health care programs. Further primary research is required to understand the experiences of both students and educators, in addition to research exploring patient and family experiences with collaborative care teams, including student care teams.

Undertaking further primary research into the economic and cultural feasibility, appropriateness, and meaningfulness of intra-professional learning may be beneficial, including within the larger landscape of inter-professional collaboration. This may identify economic and social benefits and/or challenges

related to intra-professional learning. Further interpretive research (such as critical analyses) is also needed, in order to assist with disrupting normalizing or predominating discourses and/or assumptions that could be creating or contributing to power inequities among student groups and educators. Enhancing awareness and understanding of how everyday work of teaching and learning is influenced by what is said within constructed frames of reference can assist in revealing impacts on the feasibility of both students and educators engaging in intra-professional learning. Lastly, a mixed methods systematic review could be undertaken to build on the findings of this review.

Conflict of Interest

The authors declare no conflict of interest in relation to this work.

Acknowledgements

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Appendix I:

Search strategy for CINAHL with full text; MEDLINE with full text; ERIC; Health source; Nursing Academic Edition; PsycINFO

S1: (MH "Intraprofessional relations)" or (MH "intraprofessional collaboration*")
S2: MH intraprofessional*
S3: MH intraprofessional* or intra-professional*
S4: MH "Students, Nursing, Diploma Programs") or (MH "Students, Nursing, Baccalaureate+") or (MH "Students, Pre-Nursing") or (MH "Students, Nursing+")
S5: student*
S6: (MH "Faculty, Nursing")
S7: (faculty or instructor*)
S8: (MH "Curriculum+") or (MH "Course Content")
S9: (MH "Education, Nursing+") or (MH "Education, Nursing, Baccalaureate+") or (MH "Education, Diploma Programs+")
S10: education
S11: S1 or S2 or S3
S12: S4 or S5 or S6 or S7
S13: S8 or S9 or S10
S14: S11 and S12 and S13
S15: S11 and S12 and S13 with limiters: published ≥January 1, 2001

New York Academy of Medicine(NYAM) Grey Literature Search:

kw,wrdl: (interprofessional or kw,wrdl: interdisciplinary) and kw,wrdl: education
(limits- year 2000-2016)

TRIP
All words: intraprofessional; excluding interprofessional; anywords: intraprofessional, students, curricula

Web of Science
Intraprofessional* and student*

OCLC Papers First
kw: intraprofessional and kw education and yr 2000-2016

Proquest Dissertations & Theses
Intra-professional AND intraprofessional AND (education or curricula) AND student AND faculty AND (pre-licensure OR pre-registration)
Limit: 2000-2016

Mednar
"Intraprofessional education"

Google Scholar
"intraprofessional relationships" AND (student OR faculty)

Appendix II: Appraisal instruments

QARI Appraisal instrument

JBI QARI Critical Appraisal Checklist for Interpretive & Critical Research

Reviewer _____ Date _____

Author _____ Year _____ Record Number _____

	Yes	No	Unclear	Not Applicable
1. Is there congruity between the stated philosophical perspective and the research methodology?	☐	☐	☐	☐
2. Is there congruity between the research methodology and the research question or objectives?	☐	☐	☐	☐
3. Is there congruity between the research methodology and the methods used to collect data?	☐	☐	☐	☐
4. Is there congruity between the research methodology and the representation and analysis of data?	☐	☐	☐	☐
5. Is there congruity between the research methodology and the interpretation of results?	☐	☐	☐	☐
6. Is there a statement locating the researcher culturally or theoretically?	☐	☐	☐	☐
7. Is the influence of the researcher on the research, and vice- versa, addressed?	☐	☐	☐	☐
8. Are participants, and their voices, adequately represented?	☐	☐	☐	☐
9. Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	☐	☐	☐	☐
10. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	☐	☐	☐	☐

Overall appraisal: ☐   Include ☐   Exclude ☐   Seek further info. ☐

Comments (Including reason for exclusion)

_____
_____
_____

Appendix III: Data extraction instruments

QARI data extraction instrument

JBI QARI Data Extraction Form for Interpretive & Critical Research

Reviewer _____ Date _____

Author _____ Year _____

Journal _____ Record Number _____

Study Description

Methodology
_____
_____

Method
_____
_____

Phenomena of interest
_____
_____

Setting
_____
_____

Geographical
_____
_____

Cultural
_____
_____

Participants
_____
_____

Data analysis
_____
_____

Authors Conclusions
_____
_____

Comments
_____
_____

Complete   Yes ☐   No ☐

Findings	Illustration from Publication (page number)	Evidence		
		Unequivocal	Credible	Unsupported

Extraction of findings complete   Yes ☐   No ☐

Appendix IV: Table of Characteristics of Included Studies

Study	Methodology & Methods	Participants	Phenomena of Interest & Intervention	Authors' Conclusions	Reviewers' Comments
Brame, J.L., Mitchell, S.H., Wilder, R.S., & Sams, L.D. (2015)[26]	convergent parallel **mixed methods** design; survey (QN) and focus groups; (thematic analysis of focus group data)	total (n= 247); including senior dental students (n= 43); senior hygiene students (n=32); dental assist. students (n=19); Junior dental students (n=42); junior hygiene students (n=33). Chart included in paper shows demographics of each group (M/F; previous dental employment; previous dental education, age in years) For focus groups (n=17) - three separate groups (not intra-p): dental hygiene #1(n=6); hygiene #2 (n=5); dental student (n=6). 2 other groups cancelled (one DA group; one dental group due to issues around availability). Students who expressed interest in participating in focus groups were chosen at random. Focus groups conducted by two, independent third-party facilitators -university dental program introducing vertically integrated patient care clinics with a curricular revision in their dental program, bringing together dental assisting, dental hygiene, and dental students together in a team-based design	exploring students (dental, dental hygiene, and dental assistant students) attitudes/readiness for intra-professional education and assess attitudes/perceptions of intra-professional teamwork, communication, respect, and understanding of professional roles -facilitator utilized interview script (not included in paper) for focus groups	Three major themes identified (identified in the discussion section): need for increased communication among dental, dental hygiene, and dental assisting students; students' perceived that improved intra-professional communication would have a positive impact on consistency and quality of patient care; and students acknowledged that they have limited understanding of one another's roles. "this study found that dental, dental hygiene, and dental assisting students supported a need for increased communication among dental disciplines and improved communication leading to a positive impact on the consistency and quality of patient care. They also agreed that they had limited understanding of one another's roles. Cultural differences such as disciplinary stereotypes and barriers in communication must be resolved. Success cannot be achieved by foundational changes alone; students must be taught how to be team members and how to communicate effectively with other health care professionals."	Adequate amount of participant quotes to support findings; includes comments in charts; found that words like 'all', 'unanimous' become a little tricky- as providing one quote does not necessarily mean 'all'? -addresses how collecting two forms of data contributes to a more comprehensive understanding -homogeneous focus groups based on educational program and level of learning

Study	Methodology & Methods	Participants	Phenomena of Interest & Intervention	Author(s) Conclusions	Reviewers' Comments
Evans, J.L., Henderson, A., & Johnson, N.W. (2012)[27]	**mixed methods** design; case study Method: survey (QN) + profile questionnaire; QL- focus groups (3) with interview data analyzed using coding frame tested against Leximancer QL software for consistency.	QL focus groups (3): group 1- final-year dental technology students (n=8); group 2 - third-year dentistry students (n=2); and group 3 - final-year dentistry students (n=2) This university began teaching in 2004 utilizing an innovative approach in introducing an IP curriculum for dental health care professionals. Dentistry, oral health therapy, and dental technology students experience common lectures, group work, clinical, and lab work. Dental technology across Australia has commonly been taught in 'isolated technical colleges'	To determine the impact of an IPE curriculum on knowledge and attitudes of dentistry and dental technology students participating in this curriculum Focus groups occurred during second semester of 2008; external facilitator utilized prepared open-ended questions and probes (appendix) such as 'what do you think IP dental education to be?'; 'reflect on your first experience with a dental team-what was that experience like?'; describe the nature of your interactions within the dental care team'	Knowledge and teamwork is fostered through our IP curriculum. Unfortunately, this has had limited influence on improving attitudes. More advocates and role models of IP practice, and longer experience of it, may prove more effective. IPE can positively influence dentistry and dental technology students' experiences of collaboration, but hierarchical issues remain. We fear that, until there is broader commitment to change across all facets of the oral health professions, and in particular amongst academia, the issues will continue. Four themes emerged from study: positive influence on professional identity; development of roles, enhanced communication, and perceived domination/lack of mutual respect between dentistry and dental technology students	-themes are identified in discussion section (not results), so not tied to participant quotes. There are numerous ideas/claims brought forth in discussion section, but these are not supported by quotes. Quotes are offered in the Focus Group Results section -word counts for each student focus group noted; discussion on the processes of coding, theming, or utilization of Leximancer software includes how coding frame in spreadsheet was used for a 4-step coding process (organizing, shaping, summarizing & explaining themes and categorizations); Mentions that 'data were triangulated to observe trends' -not clear if triangulated data support identified themes -homogeneous focus groups by external facilitator to 'limit researcher bias and minimize opportunities for evoked responses'

Study	Methodology & Methods	Participants	Phenomena of Interest & Intervention	Author(s) Conclusions	Reviewers' Comments
Jelley, W., Larocque, N., & Patterson, S. (2010)[28]	pilot study; **QL descriptive study** with thematic analysis; QL analysis with NVivo 8 to develop themes Method: Pre and post experience interviews (open-ended questions/guide provided) and analysis of journals related to 5 week 2:1 collaborative PT student and PTA student clinical experience	Three pairs of PT and PTA students in concurrent paired placements incorporating 2:1 supervision and reciprocal peer coaching. Average age of participants was 21 years; Clinical Instructors (3 CIs) had minimum of 10 years' clinical practice experience; all participants were female; CIs paired with a PTA (3 participants) who acted as mentors for students. Three third year students from the University of Ottawa PT program and three second year students from La Cite collegiale PTA program participated. PT students enrolled in 4-year baccalaureate program and had 7 weeks of prior clinical experience. PTA students were in their final year of a 2 year OTA/PTA college program and had 12 days' previous clinical placement experience. Three PTs were recruited to act as CIs (clinical instructors); three PTAs who worked alongside the CIs acted as mentors for the student pairs	To explore the perceived impact of a paired 5-week clinical placement on PT and PTA students' skills Prior to start of clinical placements, CI/PTA pairs attended education session on reciprocal peer coaching (RPC); students attended a separate session (introduction to peer-assisted learning +PT regulatory guidelines) During clinical placement, students were given direct and indirect client-related tasks that emphasized cooperation, responsibility, communication, autonomy, coordination, and respect. Interview guide included pre- and post- placement questions such as: How would you define intra-disciplinary collaboration? What has your experience been with intra-disciplinary education? What made you decide to participate in this project? Were the expectations you expressed before the placement met in terms of what you expected-for yourself? For other participants? Research budget was also used to allow CIs and PTAs release time to attend the educational session (prior to clinical placements) and to devote 4 half-days during the clinical placement to the orientation, instruction, and evaluation of the PT/PTA students.	pairing PT and PTA students utilizing a collaborative peer-coaching model results in improvements in students' skills in communication, consultation, and task assignment	considering participant number (n=12), there were very few participant quotes to support the pre and post interview themes that were identified. Also included in the 12 participants were clinical instructors and PTA mentors, whose comments were not represented Provides detailed explanation of use of NVivo8 Three investigators participated in analysis of interviews and journals

Study	Methodology & Methods	Participants	Phenomena of Interest & Intervention	Author(s) Conclusions	Reviewers' Comments
Jung, B., Sainsbury, S., Gunn, R.M., Wilkins, S., & Tryssenaar, J. (2002)[29]	QL evaluation of collaborative fieldwork placement pilot project/model; collaborative fieldwork/partnership education model Method: student journal entries and post-placement questionnaire (open-ended) (retrospective content analysis (Patton))	OT students (n=8); OTA students (n=8); n=15 completed journals (one student left program/study); n=6 completed post-placement questionnaires University had second-degree OT bachelor's program; separate college had OTA program; students were brought together for a shared fieldwork placement program/project. Six OT clinicians participated as preceptors for students Three sites utilized for placements- assessment unit in rehab center, acute orthopedic unit in a general hospital, and a long-term care(LTC) facility. Two sites were in Hamilton ON; one site was in St. Catherine's ON Use of the LTC facility was discontinued after 1999 due to difficulties arising from limited on-site input and unclear role delineation (LTC previously had a full-time OT; however, no longer had one at the time of placements. Therefore, off-site preceptors were recruited)	experiences of OT and OTA students in fieldwork placement collaborative learning project OT clinicians (6) recruited to participate as preceptors (range of experience from 10-25 years & involved in many student education activities) Student journals were reviewed independently by 3 authors and codes and themes were developed Open-ended questionnaire questions asked the students to comment on the following: 'working together as a group or team; functioning collaboratively; participation within this collaborative model; identifying the perceived strengths and weaknesses for this model; and any future recommendations'.	Both benefits and challenges emerged from the study. It is essential that students are prepared within their respective programs prior to graduation, in order to have the knowledge, skills, and professional attitudes to enter into a partnership relationship. There is more work needed by educational programming, by professional associations to develop guidelines and position papers, and by individual practitioners in preparing students for practice. Author recommendations: -Ensure adequate educational preparation of students that includes understandings of collaborative learning, awareness of importance of teamwork, and respect for peer learning. -Develop clear objectives, roles and responsibilities, have senior students participate, and time placements to have student OTs begin earlier. -Refocus the priority of the learning experience to be one of partnership; eliminate language that reflects supervision. -Develop documents to guide practitioners and students that outline roles and responsibilities. -Develop strategies for equitable student teaching and learning time with preceptor.	provides ample quotes to support themes/findings; three authors independently read the journals and questionnaires and developed codes and themes

Study	Methodology & Methods	Participants	Phenomenon of Interest & Intervention	Author(s) Conclusions	Reviewers' Comments
Jung, B., Salvatori, P., & Martin, A. (2008)[30]	QL descriptive study with retrospective content analysis Method: journaling and focus groups to collect data from students, tutors, and preceptors; questionnaire given to those who could not attend post-placement focus group. Tutors submitted reflective journals and had debriefing meetings with study investigators. Preceptors participated in post-placement focus group (preceptors did not journal) content analysis of journals and focus group discussions (students); codes and categories developed; tutor and preceptor data then reviewed to further refine categories derived from student data	seven pairs of OT and OTA students; preceptors (experienced fieldwork educators- 1 OT and 1 OTA for preceptor for each student pair); 2 tutors (educators with tutoring experience- 1 OT and 1 OTA) – one affiliated with university OT program; the other with a college OTA program; chart outlines number/year of participants Two educational institutions participated- a university with an OT program; and a college with OTA and PTA programs in metropolitan area (major Canadian city). Initial 4 pairs of students' study experience interrupted due to SARS outbreak, resulting in cancellation of placements and 2 tutorials Students assigned to various in-patient fieldwork settings in Southern Ontario where OT and OTA roles had been established (adult physical health and adult mental health)	To explore the impact of combined collaborative fieldwork placement and weekly tutorial as a teaching strategy for intra-professional education Students submitted reflective journals (primary data collection tool) twice a week throughout placement period (7 weeks for OTA students; 5 weeks for OT students); asked to comment on thoughts, feelings, concerns, or issues arising from placement and tutorial experiences; asked to address guiding questions: 'What do you hope to gain from this experience? Do you anticipate any difficulties? What did you learn about yourself, the client, OT/OTA team, or the role of the care team? What critical events had an impact on you and why? How could you apply what you have learned to another population/situation in the future?' Tutorials: 1 per week for 3 of 5 weeks in 2003 (2 cancelled due to SARS); 1 per week for 5 weeks in 2004	-Combined collaborative placement and tutorial experience created positive learning outcomes for students -All students agreed that the small group tutorials added significant learning to their collaborative experience -Tutorials allowed students to continue to develop their relationships, gain new knowledge about their roles in various settings, discuss professional issues, and explore real-life clinical dilemmas -More research is needed to determine what impact each component has on student learning -Research is needed to determine if and how community settings could be used for intra-professional placements -They [students] gained new knowledge and developed new teamwork skills that have helped prepare them for collaborative practice in the future	overall, well supported by participant quotes (frequently supports theme with more than one quote); some findings do not have supporting quotes Authors noted the significance of including tutors' and preceptors' perspectives in study to add an important research perspective and create a more comprehensive picture of the student experience Builds upon work from previous study by Jung et al. (2002)

Study	Methodology & Methods	Participants	Phenomenon of Interest & Intervention	Author(s) Conclusions	Reviewers' Comments
Limoges, J., & Jagos, K. (2015)[38]	Critical analysis of how educational discourses influence and construct intra-professional relations -utilized Smith's approach of analyzing discourses as enacted in social contexts; utilized professionalization theories to aid discourse analysis Method: analysis of reflective writing and interview data following joint educational event between PN and BScN students	250 students: N=165 BScN and N=85 PN students participated in joint education event; participated in small group discussion, and wrote a reflective journal Interviews: BScN (n=17) and PN (n=14) participants 75% of BScN and 54% PN students between ages 16-22; 40% of BScN and 43% PN students had attended some prior post-secondary education prior to entering nursing 11% of BScN students and 20% of PN students were male	To explore how education constructs intra-professional relations All students participated in joint education events in semesters one and four, and also participated in group discussions (combined PN and BScN students) and wrote reflective journals. 31 students also participated in interviews Focus of semester one group discussion was developing awareness of similarities and differences between categories of nurse; focus of semester 4 group was on learning how to learn to work and make decisions together to accomplish a task Semester 4 students also watched a webcast that outlined the roles of RN and LPN/RPN, and guidelines for working together.	This research is the first to consider the power relations and ruling discourses housed within intra-professional nursing education. The study revealed a number of social practices that interrupt student nurses' abilities to understand their colleagues and their own contributions to patient care is-a-vis the other type of nurse. Little education was provided to assist students to learn nurse to nurse collaboration or how to address the hierarchies that create and sustain power relations between the groups. Carefully considering how discursive elements about the other type of nurse are drawn into nursing education and how more helpful knowledge forms can be used in nursing education could contribute to improvements in intra-professional relations. Contesting social practices, including professional closure strategies, are important to ensure that the desired consequences of nursing education are achieved and advance both nursing and patient care goals.	-utilizes D. Smith's approach in addition to discourse analysis to reveal ruling nursing education discourses enacted among students engaged in intra-professional groups; identifies findings as the key processes which structure and influence the boundary work between nursing groups and contribute to power relations and division instead of collaboration -significant in terms of its critical analytic approach as it disturbs the normalized ideas surrounding collaboration.

Study	Methodology & Methods	Participants	Phenomenon of Interest & Intervention	Author(s) Conclusions	Reviewers' Comments
Mathews, H., Smith, S., Hussey, J., & Plack, M.M. (2010)[31]	case report: content validity of survey; descriptive exploration of student perceptions of shared 2:2 clinical ed. experience Method: cognitive exam (multiple choice) prior to clinical experience; survey of 'preferred PT-PTA relationship'(content-validated and administered before and after clinical experience) and **QL method**: summative reflective essays (after clinical experience) addressing 1) positive and negative aspects of the experience; 2) usefulness of the experience; 3) recommendations for continuing this type of experiences; 4) recommendations to improve the model	2 physiotherapy (PT) students; 2 physiotherapy assistant (PTA) students (n=4 students) (1 PT and PTA student paired with 1 PT clinical instructor and 1 PTA tutor) prior to clinical experience, all participants received an individualized instructional module on the roles and preferred relationship of the PT-PTA based on South Carolina law and regulations, as well as CAPTE (Commission on Accreditation in Physical Therapy Education) standards and APTA (American Physical Therapy Association) guidelines The 2:2 clinical experience took place during the final 4 weeks of a 12-week rotation for the PT student; and throughout a 4-week rotation for the student PTA. This was the third full-time clinical experience for each student participant.	1) validate the content of survey items used to assess participant perceptions of the roles, practices, education, and preferred relationship of the PT and PTA; 2) assess the outcomes of a shared PT-PTA clinical education experience designed to enhance the preferred Pt-PTA relationship; 3) assess participants' perceptions of the shared clinical education experience **QL analysis:** summative reflective essays with clustering, development, and coding of themes Essay was focused on 'positive and negative aspects of the experience; usefulness of the experience; recommendations for continuance of experience; and recommendations to improve the model'.	this study provides insight into the continued lack of shared understanding of the roles, practices, and preferred relationship of the PT and PTA, including the need for open communication and shared responsibility for patient care. Development of a shared understanding on both national and local levels is warranted. The quality and efficiency of patient care are dependent on the optimal implementation of this relationship. Further study of the preferred relationship and methods to ensure optimal implementation of this relationship is warranted.	good use of supportive quotes to support findings; focused on QL analysis of summative student and instructor/tutor reflective essays (one PTA clinical instructor did not complete the essay) 2 researchers independently coded the essays using codes that were generated by one researcher, who had previously identified patterns of meaning, clustered statements and then coded statements.

Study	Methodology & Methods	Participants	Phenomenon of Interest & Intervention	Author(s) Conclusions	Reviewers' Comments
Plack, M.M., Williams, S., Miller, D., Malik, R., Sniffen, J., McKenna, R., & Gilner, G. (2006)[32]	Program evaluation: introduction and evaluation of an instructional model to educate PT students about the educational training and proper utilization of the PTA. The model fosters the development of the preferred relationship within the classroom setting Method: **mixed methods**: pre/post- test questionnaire (QN) and summative focus group interviews; QL analysis (Vaughn et al. for focus group data analysis (8 semi-structured open-ended questions- included)	first-year students from university-based PT program (n=34) and second-year PTA students from community-college based PTA program (n= 21); second and third year PT students also completed questionnaire ("for comparison" n=46). 5 PT and 6 PTA participants joined the summative focus group interviews. The study took place during the 2003-04 academic year students were from separate programs from 2 different institutions in different cities in NY; the two institutions are 50 miles apart, so the focus groups were homogeneous (6 PTAs at one site; 5 PTs from other)	To determine the efficacy of an instructional model that brought both PT students and PTA students together to resolve issues of delegation, supervision, and communication as related to the role of the PTA. In addition, this model was designed to foster the development of the preferred relationship between PTs and PTAs in the classroom, before it was encountered or questioned in the clinical education setting Summative focus group interview questions included the following: 'What was your reaction to the combined PT/PTA class? In what ways did this course help or hinder your understanding of the appropriate relationship between PTs and PTAs? Would you recommend this class to other program directors-why or why not? What did you find most/least helpful in this classroom experience? What was the biggest thing you learned from this experience? If you were to redesign this class, what would you do differently? What piece of advice would you give to the course instructors involved in this course?'	outcome measures demonstrated that the first-year PT students not only developed the knowledge necessary for team-based decision-making, but also developed an appreciation for the skills and affective behaviors integral to the development of effective clinical relationships with PTAs It is critical for PT students to be well-informed about the role and responsibility of the PT and PTA in delegation and supervision so that they can more accurately share this information with clinicians in practice	-focus group data analyzed in terms of 'reactions' and 'process' -question whether all conclusions are supported by data -homogeneous focus groups due to student groups/programs being 50 km apart

Appendix V: Table of Excluded Studies (at Critical Appraisal Stage)

Study Appraised	Reason for Exclusion
Dalmaso, K., Weber, S., Eley, R., Spencer, L., & Cabilan, C. J. (2015). Nurses' perceived benefits of trauma nursing rounds (TNR) on clinical practice in an Australian emergency department: A mixed methods study. *Australasian Emergency Nursing Journal, 18*(1), 42-48. doi:10.1016/j.aenj.2014.10.001	Different phenomenon (predominantly post-licensure professionals)
Evans, J.L., Henderson, A., & Johnson, N.W. (2013). Traditional and interprofessional curricula for dental technology: Perceptions of students in two programs in Australia. *Journal of Dental Education, 77*(9), 1225-1236.	Three QN surveys with one survey with 5 open-ended questions; little QL data or identifiable findings
Hoffart, C., Kuster-Orban, C., Spooner, C., & Neudorf, K. (2013). Intraprofessional Practice Education using a community partnership model. *J Nurs Educ, 52*(2), 104-107. doi:10.3928/01484834-20130121-01	Descriptive paper; no illustrations/data provided
Reeson, M. G., Walker-Gleaves, C., & Ellis, I. (2015). Attitudes Towards Shared Learning of Trainee Dental Technicians and Undergraduate Dental Students. *J Dent Educ, 79*(1), 95-100.	Descriptive with little QL data and findings; predominantly QN analysis
Wareing, M. (2011). Workplace mentor support for foundation degree students: A hermeneutic phenomenological study. *Journal of Clinical Nursing, 20*(3/4), 545-554. doi:10.1111/j.1365-2702.2010.03497.x	Different phenomenon (workplace mentoring)

Appendix VI: List of Excluded Studies (at full-text review stage)

Study	Reason for Exclusion
Anderson, J.J., Behrens, S., & Olszewski, L.T. (2013). Utilization of an interprofessional education collaborative (IPEC): Partnering intraprofessional field education requirements for health care professional students with interprofessional education (IPE) initiatives. *Abstract from*: Ronald S. Weinstein, Barbara Brandt, John Gilbert & Madeline H. Schmitt. (2013). CAB III Abstracts, *Journal of Interprofessional Care, 27*, sup1, 6-218. http://dx.doi.org/10.3109/13561820.2013.761518	Abstract only
Anthony, S.E. (2011). *A feminist poststructural case study of nursing's engagement in interprofessional education.* [Doctoral thesis]. Hamilton, ON: McMaster University.	Different phenomenon (inter-professional)
Baker, C., Pulling, C., McGraw, R., Dagnone, J. D., Hopkins-Rosseel, D., & Medves, J. (2008). Simulation in interprofessional education for patient-centred collaborative care. *Journal of advanced nursing, 64*(4), 372-379. doi:10.1111/j.1365-2648.2008.04798.x	Different phenomenon (inter-professional)
Bainbridge, L., & Nasmith, L. (2011). 17 Inter and Intra-Professional Collaborative Patient-Centred Care in Postgraduate Medical Education.	Different phenomenon (post-licensure physicians)
Barnes, D. V. (2005). *The school counseling psychology program: A qualitative study.* (3179414 Ph.D.), Ann Arbor, MI: Brigham Young University. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/305029991?accountid =14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=inf o:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rf t.atitle=&rft.au=Barnes%2C+Daniel+V&rft.aulast=Barnes&rft.aufirst=Daniel&rft. date=2005-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=054219614X&rft.btitle=&rft.titl e=The+school+counseling+psychology+program%3A+A+qualitative+study&rft. issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (interdisciplinary)
Blowers, S., Ramsey, P., Merriman, C., & Grooms, J. (2003). Patterns of peer tutoring in nursing. *JOURNAL OF NURSING EDUCATION, 42*(5), 204-211. Retrieved from http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?d irect=true&db=c8h&AN=2003086027&login.asp&site=ehost-live&scope=site	Single education program
Blue, C., Phillips, R., Born, D., & Lopez, N. (2011). Beginning the Socialization to a New Workforce Model: Dental Students' Preliminary Knowledge of and Attitudes About the Role of the Dental Therapist. *J Dent Educ, 75*(11), 1465-1475. Retrieved from <Go to ISI>://WOS:000296687600008	QN study
Bowers, H. F. (2006). Designing quality course management systems that foster intra-professional education. *Nurse Education in Practice, 6*(6), 418-423. Retrieved from http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?d irect=true&db=c8h&AN=2009622696&login.asp&site=ehost-live&scope=site	Different phenomenon (single program)

Boychuk Duchscher, J. E. (2007). *Professional role transition into acute-care by newly graduated baccalaureate female registered nurses.* (NR32924 Ph.D.), University of Alberta (Canada), Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/304794992?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Boychuk+Duchscher%2C+Judy+E.&rft.aulast=Boychuk+Duchscher&rft.aufirst=Judy&rft.date=2007-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9780494329245&rft.btitle=&rft.title=Professional+role+transition+into+acute-care+by+newly+graduated+baccalaureate+female+registered+nurses&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (RN transition)
Canadian Nurses Association/ Canadian Association of Schools of Nursing. *(2007). Nursing education in Canada statistics 2005-2006.* Ottawa, ON: CASN/CNA.	QN analysis of admissions, graduates, and enrollments of nursing schools across Canada.
Carr, S. (2015). *Examining health professional students' attitudes on interprofessional education.* (3689283 Ph.D.), University of Rhode Island, Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/1677212711?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Carr%2C+Suzanne&rft.aulast=Carr&rft.aufirst=Suzanne&rft.date=2015-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781321684438&rft.btitle=&rft.title=Examining+health+professional+students%27+attitudes+on+interprofessional+education&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (inter--professional)
Cavallo, C. L., & Richter, R. R. (2004). Attitudes of physical therapist students toward physical therapist assistants before and after full-time clinical internships. *Journal of Allied Health, 33*(1), 10-16. Retrieved from http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=2004151095&login.asp&site=ehost-live&scope=site	Different phenomenon (post-licensure PTAs)
Clare, J., & van Loon, A. (2003). Best practice principles for the transition from student to registered nurse. *Collegian, 10*(4), 25-31. Retrieved from http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=2004050660&login.asp&site=ehost-live&scope=site	Different phenomenon (new graduate transition)
Clark, C. M., & Springer, P. J. (2010). Academic nurse leaders' role in fostering a culture of civility in nursing education. *JOURNAL OF NURSING EDUCATION, 49*(6), 319-325. doi:10.3928/01484834-20100224-01	Different phenomenon (workplace civility)
Clay, M. A., 2nd, Sikon, A. L., Lypson, M. L., Gomez, A., Kennedy-Malone, L., Bussey-Jones, J., & Bowen, J. L. (2013). Teaching while learning while practicing: reframing faculty development for the patient-centered medical home. *Academic Medicine: Journal*	Different phenomenon (faculty development)

of The Association Of American Medical Colleges, 88(9), 1215-1219. doi:10.1097/ACM.0b013e31829ecf89	
Costa, D., Molinsky, R., & Sauerwald, C. (2012). Collaborative Interprofessional education with occupational therapy and occupational therapy assistant students. *OT Practice, 17*(21), CE-1-8. Retrieved from http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=2011783833&login.asp&site=ehost-live&scope=site	Literature review
Eisert, S. (2012). *Addressing Limited Clinical Experiences for Nursing Students*. (3512007 Ed.D.), Ann Arbor, MI: Walden University. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/1023106411?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Eisert%2C+Shelly&rft.aulast=Eisert&rft.aufirst=Shelly&rft.date=2012-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781267403773&rft.btitle=&rft.title=Addressing+Limited+Clinical+Experiences+for+Nursing+Students&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (single nursing program)
Faulkner, J. (2015). *New nursing graduates' relationships with experienced nurses in practice: An integrative literature review*. [Master's thesis]. Victoria, BC: University of Victoria.	Integrative literature review on new graduates' transitions to practice
Fernandes, A. R., Palombella, A., Salfi, J., & Wainman, B. (2015). Dissecting through barriers: A mixed-methods study on the effect of interprofessional education in a dissection course with health care professional students. *Anatomical Sciences Education*. doi:10.1002/ase.1517	No intra-professional findings
Formicola, A. J., Andrieu, S. C., Buchanan, J. A., Childs, G. S., Gibbs, M., Inglehart, M. R., . . . Evans, L. (2012). Interprofessional Education in US and Canadian Dental Schools: An ADEA Team Study Group Report. *J Dent Educ, 76*(9), 1250-1268. Retrieved from <Go to ISI>://WOS:000308337100017	Different phenomenon (inter-professional)
Freeman, J. R. (2013). *Team Science and Nursing: The Complexities and Impact of Interdisciplinary Collaboration*. (3579590 Ph.D.), Medical University of South Carolina, Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/1508323455?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Freeman%2C+Jenny+Rebecca&rft.aulast=Freeman&rft.aufirst=Jenny&rft.date=2013-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781303774898&rft.btitle=&rft.title=Team+Science+and+Nursing%3A+The+Complexities+and+Impact+of+Interdisciplinary+Collaboration&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (interdisciplinary)
Häggman-Laitila, A., Elina, E., Riitta, M., Kirsi, S., & Leena, R. (2007). Nursing students in clinical practice: Developing a model for clinical supervision. *Nurse Education in Practice, 7*(6), 381-391. Retrieved from	Different phenomenon (clinical supervision)

http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=2009707737&login.asp&site=ehost-live&scope=site	
Helm, R. S. (2007). *The learner in the learning environment: A multiple-case study of nursing students in the hospital clinical setting.* (3300987 Ph.D.). **Ann Arbor**, MI: University of Louisville. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/304838100?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Helm%2C+Rhonda+Stuart&rft.aulast=Helm&rft.aufirst=Rhonda&rft.date=2007-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9780549458548&rft.btitle=&rft.title=The+learner+in+the+learning+environment%3A+A+multiple-case+study+of+nursing+students+in+the+hospital+clinical+setting&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (single ADN program)
Howell, D. M. (2006). *Occupational therapy students in the process of interdisciplinary collaborative learning: A grounded theory study.* (3220452 Ph.D.), University of Idaho, Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/305324970?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Howell%2C+Dana+M&rft.aulast=Howell&rft.aufirst=Dana&rft.date=2006-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9780542738692&rft.btitle=&rft.title=Occupational+therapy+students+in+the+process+of+interdisciplinary+collaborative+learning%3A+A+grounded+theory+study&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (interdisciplinary)
Jelley, W, J., N, L., & M, B. (2013). Perceptions on the essential competencies for intraprofessional practice. *Physiotherapy Canada, 65*(2), 148-151.	Different phenomenon (post-licensure)
Lamm, N. E. H. (2011). *Examining Nursing Schools' Strategies for Recruitment and Retention of Nursing Faculty: An Exploratory Study.* (3486689 Ed.D.), West Virginia University, Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/910329093?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Lamm%2C+Naomi+Elizabeth+Himmelwright&rft.aulast=Lamm&rft.aufirst=Naomi+Elizabeth&rft.date=2011-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781267047809&rft.btitle=&rft.title=Examining+Nursing+Schools%27+Strategies+for+Recruitment+and+Retention+of+Nursing+Faculty%3A+An+Exploratory+Study&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (recruitment strategies for faculty)

Lamontagne, C. (2014). Relational Coordination: The Perception and Experiences of Student Nurses and Nursing Faculty in a Hospital Setting.	Different phenomenon (no intra-professional data or findings; focus is single program)
Levetown M, L. (2008). Communicating with children and families: From everyday interactions to skill in conveying distressing information. *Pediatrics, 121*(5), e1441-e1460.	Literature review
Loversidge, J. M. (2012). *Faculty Perceptions of Preparation of Medical and Nursing Students for Interprofessional Collaboration.* (3521037 Ph.D.), The Ohio State University, Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/1036990456?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Loversidge%2C+Jacqueline+M.&rft.aulast=Loversidge&rft.aufirst=Jacqueline&rft.date=2012-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781267508300&rft.btitle=&rft.title=Faculty+Perceptions+of+Preparation+of+Medical+and+Nursing+Students+for+Interprofessional+Collaboration&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (inter-professional)
Lyon, L. J. (2009). *Developing teaching expertise in dental education.* (3393715 Ed.D.), University of the Pacific, Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/304978552?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Lyon%2C+Lucinda+J.&rft.aulast=Lyon&rft.aufirst=Lucinda&rft.date=2009-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781109606751&rft.btitle=&rft.title=Developing+teaching+expertise+in+dental+education&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (single dental program)
Mangum, D. R. (2013). *A Structured Orientation Development System for Nursing Faculty.* (3589087 D.N.P.), Gardner-Webb University, Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/1430294169?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Mangum%2C+Dana+R.&rft.aulast=Mangum&rft.aufirst=Dana&rft.date=2013-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781303275609&rft.btitle=&rft.title=A+Structured+Orientation+Development+System+for+Nursing+Faculty&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database	Different phenomenon (transitioning faculty from clinical to academia)
Mann, C. (2013). *Experience of adjunct novice clinical nursing faculty: An interpretive case study.* (3590545 Ph.D.), Capella University, Ann Arbor. Retrieved from	Different phenomenon (undergraduate nursing faculty)

http://search.proquest.com.ezproxy.library.uvic.ca/docview/1431983432?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Mann%2C+Carol&rft.aulast=Mann&rft.aufirst=Carol&rft.date=2013-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781303303166&rft.btitle=&rft.title=Experience+of+adjunct+novice+clinical+nursing+faculty%3A+An+interpretive+case+study&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	
Martin Saarinen, J. (2012). *Dominant discourses and ideologies that have shaped the education of registered nurses and licensed practical nurses in Canada*. {Master's project}. Victoria, BC: University of Victoria.	Critical discursive review of literature
Mattheos, N., Storrs, M., Foster, L., & Oberholzer, T. (2012). Intraprofessional, team-based treatment planning for oral health students in the comprehensive care clinic. *J Dent Educ, 76*(12), 1589-1599.	QN study
Mertz, E. A. (2010). *Reshaping professional boundaries and organizational forms in American dentistry: A case study of registered dental hygienists in alternative practice.* (3398895 Ph.D.), University of California, San Francisco, Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/275820165?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Mertz%2C+Elizabeth+Ann&rft.aulast=Mertz&rft.aufirst=Elizabeth&rft.date=2010-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781109732085&rft.btitle=&rft.title=Reshaping+professional+boundaries+and+organizational+forms+in+American+dentistry%3A+A+case+study+of+registered+dental+hygienists+in+alternative+practice&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (post-licensure dental hygienists)
Miller, B. A. (2013). *A phenomenological inquiry of the experiences and perceptions of simulation among ADN students with prior health care practice.* (3569843 Ph.D.), Mercer University, Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/1356858070?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Miller%2C+Barbara+A.&rft.aulast=Miller&rft.aufirst=Barbara&rft.date=2013-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781303075506&rft.btitle=&rft.title=A+phenomenological+inquiry+of+the+experiences+and+perceptions+of+simulation+among+ADN+students+with+prior+health+care+practice&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (post-licensure)

Morath, J. (2011). Nurses create a culture of patient safety: It takes more than projects. *Online Journal of Issues in Nursing, 16*(3), Manuscript 2. doi**:** 10.3912/OJIN.Vol16No03Man02	
Mulherin, K., Ijaz, N., Prata, A., & Cheng, W. *Canadian Experiential Education Project for Pharmacy* (Vol. 1): Priority.	Different phenomenon (expansion of pharmacy programs)
Peer, K. S., & Huston, J. (2009). Learning communities: fostering engagement in AT education. *Athletic Therapy Today, 14*(3), 32-35. Retrieved from http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=2010277191&login.asp&site=ehost-live&scope=site	Non-research paper; different phenomenon
Perusek, A., & Martin, M. (2006). AT education. Academic faculty and clinical staff: the "growing pains" of education advancement. *Athletic Therapy Today, 11*(6), 34-37. Retrieved from http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=2009347862&login.asp&site=ehost-live&scope=site	Different phenomenon (post-licensure athletic therapist)
Reid, L., Macleod, A., Byers, D., Delva, D., Fedak, T., Mann, K., . . . Simpson, C. (2012). Deliberative curriculum inquiry for integration in an MD curriculum: Dalhousie University's curriculum renewal process. *Medical Teacher, 34*(12), E785-E793. doi:10.3109/0142159x.2012.687479	Different phenomenon (pre-clerkship medical students)
Jung, B., Solomon, P., & Martin, A. (2010). Collaborative fieldwork education: Exploring the intraprofessional and interprofessional context In L. McAllister, M. Paterson, J. Higgs, & C. Bithell (Eds.), *Innovations in allied health fieldwork education: A critical appraisal* (pp. 235-246). Rotterdam, Netherlands: Sense Publishers.	Book chapter-not primary research
Russell, A. S. (2005). *Progress towards design of a knowledge building community in health care.* (NR07686 Ph.D.), University of Toronto (Canada), Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/276477200?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Russell%2C+Ann+Siobhan&rft.aulast=Russell&rft.aufirst=Ann&rft.date=2005-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9780494076866&rft.btitle=&rft.title=Progress+towards+design+of+a+knowledge+building+community+in+health+care&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (post-licensure focus)
Ruth-Sahd, L. A., Beck, J., & McCall, C. (2010). Transformative learning during a nursing externship program: the reflections of senior nursing students. *Nursing Education Perspectives, 31*(2), 78-83. Retrieved from http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=2010635207&login.asp&site=ehost-live&scope=site	Different phenomenon (RN transition)
Schleich, D. J. (2005). *From nature-cure to naturopathic medicine: The institutionalizing of naturopathic medical education in Ontario.* (NR07862 Ph.D.), University of Toronto (Canada), Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/276633294?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-	Different phenomenon (single program)

8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Schleich%2C+David+John&rft.aulast=Schleich&rft.aufirst=David&rft.date=2005-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9780494078624&rft.btitle=&rft.title=From+nature-cure+to+naturopathic+medicine%3A+The+institutionalizing+of+naturopathic+medical+education+in+Ontario&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	
Storrs, M. J., Alexander, H., Sun, J., Kroon, J., & Evans, J. L. (2015). Measuring team-based interprofessional education outcomes in clinical dentistry: psychometric evaluation of a new scale at an Australian dental school. *J Dent Educ, 79*(3), 249-258. Retrieved from http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=mnh&AN=25729018&login.asp&site=ehost-live&scope=site	QN study
Thomas, C. A. (2015). *Nursing student encounters with incivility during education in a clinical setting.* (3682985 Ph.D.), Capella University, Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/1658234243?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Thomas%2C+Constance+A.&rft.aulast=Thomas&rft.aufirst=Constance&rft.date=2015-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9781321568721&rft.btitle=&rft.title=Nursing+student+encounters+with+incivility+during+education+in+a+clinical+setting&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (incivility and undergraduate students)
Weaver, K. E. (2001). *Nursing students' lived experience with intimate partner abuse of women by male partners: A critical-feminist hermeneutic study.* (3000898 Ph.D.), Georgia State University, Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/230776941?accountid=14846 http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Weaver%2C+Karen+Edith&rft.aulast=Weaver&rft.aufirst=Karen&rft.date=2001-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9780493092294&rft.btitle=&rft.title=Nursing+students%27+lived+experience+with+intimate+partner+abuse+of+women+by+male+partners%3A+A+critical-feminist+hermeneutic+study&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	Different phenomenon (student experiences with IPV)
Will, C. I. (2001). *Portraits of nursing knowledge: Contemplating nurses' lives.* (NQ58909 Ed.D.), University of Toronto (Canada), Ann Arbor. Retrieved from http://search.proquest.com.ezproxy.library.uvic.ca/docview/304766297?accountid=14846	Different phenomenon (post-licensure)

http://lg5jh7pa3n.search.serialssolutions.com/ ?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQuest+Dissertations+%26+Theses+A%26I&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&rft.genre=dissertations+%26+theses&rft.jtitle=&rft.atitle=&rft.au=Will%2C+Constance+Irene&rft.aulast=Will&rft.aufirst=Constance&rft.date=2001-01-01&rft.volume=&rft.issue=&rft.spage=&rft.isbn=9780612589094&rft.btitle=&rft.title=Portraits+of+nursing+knowledge%3A+Contemplating+nurses%27+lives&rft.issn=&rft_id=info:doi/ ProQuest Dissertations & Theses A&I database.	

Appendix VII: JBI Table of Findings, Categories, & Synthesized Findings

FINDINGS	CATEGORIES	SYNTHESIZED FINDINGS
segregated education impeded their ability to work together, attributing the struggles in the workplace to the fact that they never study or share classes together (p. 1025) (U)	#1 Considering Collaborative/shared learning Models	
Shared learning: "When students were asked if they felt the School of Dentistry had shared learning among dental, dental hygiene, and dental assisting students, the answer was a unanimous 'no'" (p. 619). (U)		
When asked if they thought there is a need for this kind of shared learning, the responses were unanimously in favor of it" (p. 619). (C)		
"An additional concern that emerged from all three groups was that of time. Students were ultimately concerned that if shared learning was seen as an add-on to the current curriculum – as opposed to a redesign of the pedagogical system- it would overload their already busy schedules" (p. 619). (U)		
"Overall, the students overwhelmingly felt that shared learning would help prepare them for 'the real world' after completion of their respective programs" (p. 622) (U)		
#2- "understanding roles" "Defined OT and OTA roles in the clinical setting as well as role modeling by the tutors in the educational setting, affected student collaborative learning. As students learned to work together, they began to understand their own roles better and then to describe their roles in relation to student partners" (p. 46). (U)		
Positive influence on professional identity "In support of IPE, both groups were surprisingly closely aligned in their sense of professional identity" (p. 243). (U)		
Process: Students described "how the authenticity of the experience and the opportunity to role play from the perspective of their future colleagues enhanced the learning process"(p.7) (U)		
Reactions: "both groups found the material equally important to their future roles. While PTA students commented on how issues of delegation and utilization are discussed in every course in their curriculum, this was not true for the PT students" (p. 7) (U)		

relationship- Building trust and respect were promoted early on starting with the pre-placement orientation sessions at which students were encouraged to begin to develop relationships with other peers, preceptors and tutors. This initial step in the process was paramount in enhancing clinical service partnerships" (p. 46). (U)		**Contextual influences and their significance for intra-professional learning (*Categories #1, #2*)** How various pedagogies/processes impact/are impacted by intra-professional teaching and learning
Shared learning: "When students were asked if they felt the Shared learning: "When students were asked if they felt the School of Dentistry had shared learning among dental, dental hygiene, and dental assisting students, the answer was a unanimous 'no'" (p. 619). (U)		
Three findings: #1: "developing the relationship" "The students identified the importance of developing their relationship through activities that required shared learning, communicating effectively, and building trust and respect" (p. 46). (U)	#2 Various approaches to learning, such as role-playing, 2:2 clinical pairing, journal writing, and tutorials + fieldwork may facilitate intra-professional collaboration	
"A final year dental technology student not only recognizes his/her professional identity but relates this to problem-solving" (p. 243). (U)		
"All of the participants indicated that the experience was beneficial and should be continued despite the challenges faced" (p. 56) (U)		
"An additional concern that emerged from all three groups was that of time. Students were ultimately concerned that if shared learning was seen as an add-on to the current curriculum – as opposed to a redesign of the pedagogical system- it would overload their already busy schedules" (p. 619). (U)		
"Both groups of students valued these [role-reversal] role play experiences as having helped to broaden their own perspectives on the roles, responsibilities, and potential attitudes of their future team mates" (p. 8) (U)		

"For one student, supervision issues became much clearer after reviewing some of the information in the tutorial" (p, 47). (U)		
"Given this experience was so early in their curriculum, the PT students felt disadvantaged with respect to their level of knowledge." (p. 7) (U)		
"majority of dental technology respondents recognized involvement and inclusion, accompanied by common knowledge, as one way of learning how to collaborate…whereas a final-year dentistry student believed there is no need for IPE or involving clinical components in dental technology education" (p. 243). (U)		
"PTA students focused more on how to extend the experience" (p. 8) (U)		
"PTA students were particularly vocal and discussed how they had learned about issues from the affective "PTA students were particularly vocal and discussed how they had learned about issues from the affective domain that they had not previously addressed or thought about in class. They shared how they felt more confident and less intimidated. They recognized that it was their job to communicate their skills and abilities to future supervisors and that communication was critical for strong team building" (p. 8). (U)		
"Students also used the tutorials to discuss personal experiences that were uncomfortable" (p. 48) (U)		
"The 2:2 clinical experience enhanced collaboration and direction skills of students" (p. 54) (U)		
"The process of writing [journals] appeared to help some students work through their thoughts and feelings about issues" (p. 98) (U)		
"The shared experience and use of journals had some pitfalls. Two student OTs working together identified shared frustration with the student OTAs in their journals. The student OTs used the journals and each other to exclude the student OTAs as equal learning partners, and remained frustrated with the learning experience." (p. 99). (U)		

"The students benefitted from presenting client cases for discussion" (p. 47) (U)		
Collaborative learning "Learning together led to feelings of respect and trust about the different knowledge and skills each brought to the client situation as well as the different responsibilities each had in the care of the client" (p. 99)(U)	#3 Intra-professional learning experiences may enhance communication and teamwork to improve patient care	
Communication & Respect: "Students consistently discussed a gap in communication among these disciplines, with some suggesting the communication issues were having a negative impact on patient care. These issues seemed to be a major concern of these [dental hygiene] students, who also indicated that they felt 'out of the loop' or even unwelcome at events billed for the whole school but then seemed to be geared toward dental students" (p. 621). (U)		
Impact on client care and future practice "there was a realization that an OT and OTA working together could provide better care than one or the other alone, thus improving the effectiveness and efficiency of OT services" (p. 100). (U)		
Impact on patient care: "All students agreed that shared learning would have a positive impact on patient care." (p. 621). (U)		**Intra-professional learning as a means improve patient care planning and providing nursing care (Categories #3, #4)** students suggest that learning together enhances communication and relationships which helps them create comprehensive care plans and provide better care to patients
Participants found the experience helpful in enhancing their collaboration and direction skills: (p. 55) (U)		
"responses to the question about participants' expectations from the shared learning experience were very positive, mentioning professional growth, increased learning, and the opportunity to experience teamwork in the clinical setting" (p. 77). (U)		
understanding roles - Through understanding each other's roles and effective communication there emerged a sense of teamwork and genuine interest in collaborating on a very comprehensive client plan that ultimately complemented the delivery of OT services" (U)	#4 Intra-professional student collaboration may improve team communication and care planning to provide improved patient care	
"PT participants wrote that the experience enhanced their ability to write a more comprehensive plan of care" (p. 55) (U)		

"The 2:2 clinical experience enhanced the SPTs ability to write a comprehensive and effective plan of care that incorporated the PTA" (p. 54) (C)		
"The 2:2 clinical experience provided insight into current clinical practices and processes" (p. 54) (U)		
data show how students experience discomfort from the ways that the two types of nurse are discussed in public and in the clinical data show how students experience discomfort from the ways that the two types of nurse are discussed in public and in the clinical setting...students attempt to reconcile these tensions and disjunctures by activating limited and hegemonic positions...more often though, BScN and PN students reverted to 'sameness' talk, suggesting that there was no real difference between the [LPN] and the RN except for the amount of money they made for the same work" (p. 1026) (U)		
Perceived domination/lack of mutual respect "dental technology students reported they had a greater equality with dentistry students in the early years of the program and spoke of this diminishing into a hierarchical division over time. Dental students readily acknowledged a hierarchy within the workplace among students, with the dentist at the top of the pecking order. It was suggested that attitudes of academic staff reinforce these divisions. Dentistry students perceived there was little they could learn from dental technology students" (p. 243)(U)		
When asked if they thought there is a need for this kind of shared learning, the responses were unanimously in favor of it" (p. 619). (C)		
"An additional concern that emerged from all three groups was that of time. "An additional concern that emerged from all three groups was that of time. Students were ultimately concerned that if shared learning was seen as an add-on to the current curriculum – as opposed to a redesign of the pedagogical system- it would overload their already busy schedules" (p. 619). (U)		
"DH1 and DH2 groups agreed that intraprofessional experiences were minimal and did not provide true intraprofessional or team experiences" (p. 619). (C)	#5 External influences such as academic, clinical, workplace settings and interactions with others intersect to influence intra-professional learning	
"how education is used to establish and convey expectations that form ruling relations. Students in both programs said they were routinely told "how education is used to establish and convey expectations that form ruling relations. Students in both programs		

said they were routinely told that collaboration between nurses would promote patient safety and positive patient outcomes. [Students] questioned the motives for withholding this education, given the possible contributions from 'working together…this disjuncture made them feel pressure to practice in a certain way and uncomfortable because they did not know how to participate in collaborative care to achieve the stated outcomes'" (p.1025)(U)

"One student explicitly noted that the clinical environment, despite the available learning opportunities, plays a powerful role in supporting or hindering the building of relationships" (p. 47). (U)

"PT CI indicated that the experience provided insight into additional staff development needs" (p. 56) (U)

"PTA students found the experience satisfying not only because they felt they had learned from the experience, but also because they were able to educate future colleagues and dispel some misconceptions about their role. The collaborative session also helped them define their role more clearly not only for themselves, but for the PT students" (p. 7). (U)

"students reactions to and perceptions of the efficacy of the teaching strategy" "PT and PTA students confirmed what was evident in the literature. Both PT and PTA students discussed the misconceptions of the role of the PTA present in practice, as well as concern regarding the role of the PTA and its potential impact on the practice of the PT"(p.6) (C)

"the opposite perspective was also heard from [a] PT student" (p . 8) (U)

"The students were also immersed in the health care culture and experienced the real-life work dilemmas that challenged their notions of ideal practice. On the topic of workload, one student suggested that efficiency could be improved through better use of the services of an OTA" (p. 47). (U)

"This crisis [SARS outbreak during placements] might have helped the students see how much of a bond they had developed in a short period of time" (p. 49). (C)

#2- "understanding roles" "Defined OT and OTA roles in the clinical setting as well as role modeling by the tutors in the educational setting, affected student collaborative learning. As students learned to work together, they began to understand their own roles better and then to describe their roles in relation to student partners" (p. 46). (U)	#6 Intra-professional learning may impact instructors' roles and understandings of teaching collaboration	
Perceived domination/lack of mutual respect "dental technology students reported they had a greater equality with dentistry students in the early years of the program and spoke of this diminishing into a hierarchical division over time. Dental students readily acknowledged a hierarchy within the workplace among students, with the dentist at the top of the pecking order. It was suggested that attitudes of academic staff reinforce these divisions. Dentistry students perceived there was little they could learn from dental technology students" (p. 243). (U)		
Reactions: "both groups found the material equally important to their future roles. While PTA students commented on how issues of delegation and utilization are discussed in every course in their curriculum, this was not true for the PT students" (p. 7) (U)		
relationship- Building trust and respect were promoted early on starting with the pre-placement orientation sessions at which students were encouraged to begin to develop relationships with other peers, preceptors and tutors. This initial step in the process was paramount in enhancing clinical service partnerships" (p. 46). (U)		
Students in each program suggested that the status quo is held in place when the tensions and disjunctures within nurses' working relationships are not addressed...students felt they were not guided by their clinical teachers or faculty to address the boundaries and differences in professional responsibilities including how to provide effective consultation in practice" (p. 1025) (U)		
Three findings: #1: "developing the relationship" "The students identified the importance of developing their relationship through activities that required shared learning, communicating effectively, and building trust and respect" (p. 46). (U)		**Intra-professional learning impacts the building of collaborative relationships and understanding of roles (Categories #5, #6, #7)** both students' and instructors' relationships and learning evolve when engaging intra-professionally, as impacted by various influences
understanding roles- "In support of the student comments on understanding roles, the OT tutor stated.." (p. 47) (U)		

"issue of consistency in clinical education and patient care" (p. 619) "all groups agreed that the current team learning experiences were insignificant and did not provide valuable experiences preparing them to work as a dental team" (p. 619). (U)		
"PT CI indicated that the experience provided insight into additional staff development needs" (p. 56) (U)		
"The collaborative learning concept included the preceptor as learner by one of the students in a situation where the preceptor had never supervised a student OTA before…there appeared to be an authentic understanding of the collaboration involved in teamwork from the fieldwork experience" (p. 100). (U)		
"The OT and OTA students who were paired exchanged more information and interacted more closely during these tutorials than with their own respective classmates at school" (p. 47). (U)		
"The scenarios brought up in the student discussions evoked in this OTA tutor a personal and powerful reaction based on her own past experiences" (p. 47). (U)		
"The tutor played an important role in the learning process" (p. 47). (U)		
"The 2:2 clinical experience provided insight into current clinical practices and processes" (p. 54) (U)	#7 Learning and communication may lead to increased trust, appreciation, and respect among intra-professional student groups	
Collaborative learning "Learning together led to feelings of respect and trust about the different knowledge and skills each brought to the client situation as well as the different responsibilities each had in the care of the client" (p. 99). (U)		
relationship- Building trust and respect were promoted early on starting with the pre-placement orientation sessions at which students were encouraged to begin to develop relationships with other peers, preceptors and tutors. This initial step in the process was paramount in enhancing clinical service partnerships" (p. 46). (U)		

Three findings: #1: "developing the relationship" "The students identified the importance of developing their relationship through activities that required shared learning, communicating effectively, and building trust and respect" (p. 46). (U)		
understanding roles - Through understanding each other's roles and effective communication there emerged a sense of teamwork and genuine interest in collaborating on a very comprehensive client plan that ultimately complemented the delivery of OT services" (U)		
"All 3 respondents indicated that the experience provided them an opportunity to observe interactions between PTs and PTAs, which they found beneficial" (p. 54) (U)		
"Participants noted an improvement in communication skills, increased confidence in assigning tasks, and more effective intradisciplinary consultation, which students attributed to an improved knowledge of educational background and a better understanding of roles" (p. 78) (U)		
"The OT and OTA students who were paired exchanged more information and interacted more closely during these tutorials than with their own respective classmates at school" (p. 47). (U)		
"While both experienced frustration, both also suggested that this collaborative model be continued since they felt they had developed a greater appreciation for the PT-PTA preferred relationship" (U)		
Communication & Respect: "Students consistently discussed a gap in communication among these disciplines, with some suggesting the communication issues were having a negative impact on patient care. These issues seemed to be a major concern of these [dental hygiene] students, who also indicated that they felt 'out of the loop' or even unwelcome at events billed for the whole school but then seemed to be geared toward dental students" (p. 621). (U)		
Learning about each other's roles "Most of the students identified the value of learning about each other's roles. However, this did not seem to be an easy process as roles were not always clear. Early on, students struggled with trying to understand and accept		

each other's roles in context to their own, however, for most the clarity did eventually come by the end of the placement" (p. 99)(U)		
relationship- "communication is key among all team members and the OT and OTA need to be on the same page for all clients to be able to chart their progress and report at team meetings" (p. 46) (U)		
Resistance to roles "For some, the supervisory element that the student OTs were asked to include was met with discomfort and resistance from both the student OTs and student OTAs. Although this was only one component of the learning experience, some students found it may have compromised their learning…this reflects the challenges of real life practice and some of the tensions apparent in the stratification of roles within the profession" (p. 100). (U)	#8 Initiating and maintaining intra-professional learning relationships may be frustrating for students	
Understanding of roles: "All groups acknowledged a lack of understanding of the roles of the other members of the oral health care team, with some expressing apprehension and frustration for those who were graduating" (p. 621). (C)		
"Both groups felt that the process was important and should be continued…each offered suggestions…feeling at a disadvantage, because it was so early in their educational process and they had not yet had any clinical experiences, whereas the PTAs had already completed 2 clinical experiences, the PT students talked most about matching the groups of students so they had similar academic and clinical experiences" (p. 8).(U)		
"Frustration, and at times anger, was evident in both focus groups. While the PTA students were disturbed by the limited knowledge of the PT students, the PT students were distressed by their perception that some of the PTA students were too aggressive in defending their roles as valuable members of the health care team" (p. 7). (U)		
"issue of consistency in clinical education and patient care" (p. 619) "all groups agreed that the current team learning experiences were insignificant and did not provide valuable experiences preparing them to work as a dental team" (p. 619). (U)		
"The collaborative learning approach also posed a challenge with some of the students. The sharing of a preceptor with another student seemed difficult. There was a feeling of		

compromised learning at times that somehow one might lose out because of the lack of one-to-one relationship with one's preceptor" (p. 100). (U)		**Perceived benefits and challenges of intra-professional learning** *(Categories #8, #9)* intra-professional learning can be challenging to enact, but may enhance collaborative relationships and clarify misconceptions
"The shared experience and use of journals had some pitfalls. Two student OTs working together identified shared frustration with the student OTAs in their journals. The student OTs used the journals and each other to exclude the student OTAs as equal learning partners, and remained frustrated with the learning experience." (p. 99). (U)		
"The students evolved from struggling to explore and understand roles to eventually developing an awareness of the roles and responsibilities" (p. 99). (U)		
"This lack of communication was also intimately tied, in the students' view, to a perceived lack of respect among the three groups" (p. 621). (U)		
"The 2:2 clinical experience provided insight into current clinical practices and processes" (p. 54) (U)		
members of the DDS4 group focused more on roles in order for them to run a private dental practice and reported feeling that they needed more interaction during school to better prepare them…such as legal implications, such as if a dentist unknowingly asks the dental assistant or hygienist to perform duties not in their scopes of practice." (p. 621). (U)	#9 Intra-professional learning may help in clarifying misunderstandings of roles by other student groups	
"Examples of participants' perceptions of the changes in students' intradisciplinary collaborative competencies:" (p. 77) (U)		
"PTA students found the experience satisfying not only because they felt they had learned from the experience, but also because they were able to educate future colleagues and dispel some misconceptions about their role. The collaborative session also helped them define their role more clearly not only for themselves, but for the PT students" (p. 7). (U)		

"students reactions to and perceptions of the efficacy of the teaching strategy" "PT and PTA students confirmed what was evident in the literature. Both PT and PTA students discussed the misconceptions of the role of the PTA present in practice, as well as concern regarding the role of the PTA and its potential impact on the practice of the PT"(p.6) (C)		
"Students were able to articulate the differences and the similarities in their respective roles. Many expressed some surprise at the other's knowledge and skills" (p. 47). (U)		