

International Dentist Degree Students' Educational Experiences,  
Perceptions, and Adaptation to the International Dentist Degree Program at the  
University of Manitoba

by

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## Preface

In 2002, the University of Manitoba Faculty of Dentistry introduced the IDDP with the first incoming class entering the two-year degree program in the 2003-2004 academic year. At the time of inception, the University of Manitoba IDDP was the last university in the Association of Canadian Faculties of Dentistry (ACFD) to offer the qualifying or degree completion program for foreign-trained dentists. The University of Western Ontario was the first university to introduce a qualifying program in 1997. This licensure and credentialing process was followed by Dalhousie University (1998), the University of Toronto (1999), Universities of Alberta and British Columbia (2000), and McGill University (2002). With limited literature to support the success of these programs and with a desire to assess the impact that the IDDP had on its students, the administration in the Faculty of Dentistry decided to assess the IDDP at the University of Manitoba. An Education Director was hired in September 2004 for the evaluation of programs at the Faculty of Dentistry as part of requirements for accreditation. The IDDP was one of many programs to be evaluated by the Director of Educational Resources and Faculty Development. Although not required as part of the accreditation exercise, assessing the IDDP effectiveness was of interest to a number of individuals in the Faculty of Dentistry, including administration and instructors. Given that the first IDDP cohort was to graduate in May 2005, a meeting among interested faculty and administrators was facilitated with Dr. Schönwetter to generate a set of questions with the purpose of conducting a program assessment of the IDDP for administrative purposes. At this point, the data had not been analyzed and it remained in an archived file in the office of the Director of Educational Resources and Faculty Development.

The thesis focuses on an issue different than that originally intended by the Director of Educational Resources and Faculty Development, Faculty of Dentistry. The original purpose of the questionnaire was to evaluate the IDDP and provide some data to support the findings. However, since the data was being used for a thesis project, the data was not analyzed nor were there any results used for administrative purposes for refining the IDDP program. The primary intention of this thesis is to explore the overall educational experiences, perceptions, and adaptations of the IDDP students during the program.

Therefore, the thesis was developed to assess archival data. Table 1 provides a synopsis of the sequence of events in which the thesis followed. The archival data had been collected over a period of time with the intention of conducting a program evaluation of the International Dentist Degree Program (IDDP) at the University of Manitoba. The archival data set consists of information on graduating students who were successful in completing the IDDP. The data was collected since the first graduating class from the IDDP in March 2005.

Even though the program assessment was part of an administrative task for the Education Director, the need to substantiate the importance of this project to participants and to provide written assurance of the confidentiality of the data gathering process of the interview of graduating IDDP students, ethical approval was sought. Application by Drs. Schönwetter, Boorberg, and Swain was made on March 4, 2005 to the Health Ethics Research board and approved on March 21, 2005, and subsequently for each of the four years (see Appendices A, B, and C for the ethics application, study protocol, and the ethics approval). Given that each graduating class (2005-2008) had very few students, anywhere from four to seven, the Educational Director decided to interview



students over successive years, using the same interview instrument until a minimum number of IDDP students had completed the interviews. As of May 2008, the number of IDDP students who had completed the interviews reached the goal of 19. The taped interview data was stored in the office of the Director of Educational Resources and Faculty Development.

One of the key players in the designing of the program assessment tool, Dr. Noriko Boorberg, began her M.Ed. program in January 2005. In a later meeting with Dr. Schönwetter (early 2006), her graduate supervisor, Dr. Boorberg was encouraged to consider the IDDP assessment as part of her M.Ed. program. She began with a substantial literature review on IDDP in Canada and the U.S. (Boorberg, Schonwetter, & Swain, 2009). With the potential of having the archived data being used for a graduate thesis project, the data was only collected, transcribed, and stored in the Director of Educational Resources and Faculty Development's password protected computer. The archived data is intended to be used for both administrative and research purposes, to assist with the refinement of the IDDP as well as providing first source evidence for its effectiveness in teaching international dentists in preparing them for a license to practice dentistry in Canada. Upon approval of the thesis proposal, the author applied for and received ethics approval from the Educational Research and Ethics Board for part I and II of the thesis study.

## Abstract

Canadian universities are challenged by the lack of graduating enough dentists to meet the future needs of the Canadian population. Foreign-trained dentists (FTD) represent a valuable resource to society and the economy. Dental programs have trained FTD for various reasons: public need for healthcare services, income generation for universities, and demand by FTD who desire to practice dentistry in Canada. Changes implemented by the National Dental Examining Board (NDEB) of Canada in 2000 have resulted in FTD no longer being able to gain Canadian dental licensure through a certification examination. FTD are now required to complete a two-year advanced placement qualifying or degree program at a Canadian dental school prior to receiving licensure. In 2003, the University of Manitoba launched a two-year International Dentist Degree Program (IDDP). In Part I of the study, 19 transcribed interviews of IDDP graduates between 2004-2008 were analyzed manually. Five qualitative themes emerged from the dataset. The themes are identified as: (1) isolation and physical relocation issues (i.e., from friends, family and their culture), (2) personal and professional demands of the program (i.e., maintaining home life with spouse and /or children as well as the professional demands of a dental student), (3) emotional stress associated with the program, (i.e., personal struggles and financial stresses), (4) re-learning a system (i.e., both cultural and professional), and (5) overall program satisfaction. In Part II of the study, the mean differences between the outcome variables (Clinical Grades, Didactic Grades, Final Grade Point Average, and NDEB Written and OSCE scores) were statistically analyzed between the 37 IDDP graduates and 246 regular-stream dental graduates from 2003-2011. Based on analysis of the data, the IDDP graduates performed

better than the regular-stream dental graduates in all the variables. The mean scores in each of the outcome variables were higher than the regular-stream group, the only variable that was found to be statistically significant was observed in the NDEB Written scores ( $p>0.05$ ).

## CHAPTER 1: INTRODUCTION

The current demographic evidence and predictions for Canada's future have indicated that Canada's population is aging and there will be a nationwide shortage of dentists. Compounding this shortage is the looming retirement cliff of the many baby-boomer dentists who started their practices in the mid 70's (Brown & Raborn, 2001; Dohm, 2000; Mertz, 2002). A shift towards more than 50% of Canadian graduates being female in comparison to the traditional male dental graduate has also had significant implications for the workforce (Brown & Raborn, 2001). Foreign-trained professionals have historically and geographically made up for the deficits in numbers of practicing professionals in the Canadian health sector. The changes to the National Dental Examining Board (NDEB) of Canada in 2000 to no longer allow immediate licensure of foreign-trained dentists has resulted in a projected reduction of foreign-trained dentists (FTDs) in Canada by 30-40% per year (Boorberg et al., 2009; de Vries, 2004). Canada has ensured that practicing dentists are meeting the high standard of care through a solid four-part process of education, accreditation, certification and licensure (Boorberg et al., 2009; Dube, 2004), a number of Canadian and U.S. dental schools have developed additional training programs aimed at educating FTDs in order to prepare for the nationwide shortage of dentists in the next five to ten years (Boorberg et al., 2009). This overall process ensures that all licensed practicing Canadian dentists have acquired the training and skills required to deliver safe and effective dental care (Dube, 2004). The NDEB changes for foreign licensure have had a significant impact on the number of FTDs who are able to practice in Canada. This decision was introduced because of the assessment of variance and quality of education of non-accredited international dental

schools when compared to Canadian accredited dental faculties. It has been determined that graduates of foreign-trained dental schools are non-equivalent in comparison to graduates of Canadian Dental Faculties (FDI World, 1995). Thus, the complex problem has led to the evolution of an advanced standing, qualifying or international dental degree program in Canada. There are a number of different names given to advanced standing, qualifying or degree completion programs in Canada and the U.S. This is a result of each program creating a unique name to identify themselves from other competitive programs (Boorberg et al., 2009). In Canada, FTDs are now required to enter a Qualifying Program (QP), International Dentist Advanced Placement Program (IDAPP), Advanced Standing Program (ASP), Internationally Trained Dental Program (ITDP), International Dental Degree Completion Program (IDDCP), or International Dentist Degree Program (IDDP) and successfully pass the NDEB Examination and the Objective Structure Clinical Exam (OSCE) prior to receiving dental licensure (Boorberg et al., 2009; Dalhousie University Faculty of Dentistry, 2008b; Gerrow, Boyd, Donaldson, Watson, & Henderson, 1998; Gerrow, Boyd, Duquette, & Bentley, 1997; University of Alberta Faculty of Dentistry, 2008; University of British Columbia Faculty of Dentistry, 2008; University of Toronto Faculty of Dentistry, 2008a; University of Western Ontario Faculty of Medicine and Dentistry, 2008). Little is known about the experiences of the IDDP student. Whether these experiences constitute personal, curricular, or program, it is important to research a new program as a form of program evaluation. Furthermore, identifying areas of program success and weaknesses are imperative in any program development and maintenance. The effectiveness of current advanced standing, qualifying and degree programs is not known. Similarly,

nothing is reported in the literature with regards to how IDDP students perform within their academic programs and on the NDEB Written and OSCE examinations. Therefore, this is another area of interest to the researcher.

#### 1.0 Purpose and Objectives

The focus of this thesis was to assess the IDDP student experience at the University of Manitoba beginning with the year of program inception. Both positive and negative attributes of the IDDP have arisen over the past six years. This thesis represents the first steps in examining the overall educational experiences of the FTD students.

The research objectives of the study are:

1. To describe the educational experiences, perceptions and adaptation to the IDDP by the IDDP students upon graduation.
2. To identify stressors associated with the IDDP students during the program.
3. To identify demographic factors for the purpose of identifying patterns between IDDP students (e.g., gender, age, etc.).
4. To capture IDDP students' reflections on their attitudes and experiences while enrolled in program.
5. To determine whether there are significant statistical differences between the two cohorts, IDDP graduates and regular-stream dental graduates (RSDG), in terms of Clinical Grades, Didactic Grades, Final Grade Point Average, NDEB Written and OSCE scores between the years 2003-2011.

## CHAPTER 2: SETTING THE CONTEXT: THE INTERNATIONAL DEGREE PROGRAMS IN CANADA

### 2.0 Canadian History of the Advanced Standing, Qualifying, and Degree Programs

The NDEB of Canada was founded in 1952 and according to Gerrow et al. (1997), “to establish and maintain qualifying conditions for a national standard of competence for dentistry in Canada, and to issue a certificate to those dentists who met the standard” (p. 922). From 1971-1993, dental graduates of undergraduate dental programs accredited by the Commission on Dental Accreditation of Canada (CDAC) obtained licensure and certification on the sole basis of graduating from an accredited program. Figure 1 demonstrates that foreign-trained graduates of dental programs not accredited by the CDAC did not receive automatic licensure (Boorberg et al., 2009).

U.S. graduates and FTDs were required to complete and successfully meet the criteria of a NDEB written examination and three-part clinical examination (Boorberg et al., 2009; Boyd & Gerrow, 1996).

Changes to the certification process of the NDEB in 1994 resulted in all graduates of accredited Canadian programs to successfully complete a NDEB Written and Objective Structured Clinical Examination (OSCE) exam (Boorberg et al., 2009; Boyd & Gerrow, 1996). Graduates of all other programs, whether U.S. or international were required to successfully complete a NDEB written exam and three-part clinical exam (see Figure 1). Figure 2 displays changes to the NDEB certification process from 1996-1999 that required all graduates of non-accredited dental programs to obtain licensure by one of two routes. To either successfully pass the NDEB written and three-part clinical examination or else, to complete an accredited two-year QP and then pass

the NDEB written and OSCE (Boorberg et al., 2009; Gerrow et al., 1998). However, effective December 31, 1999 (see Figure 3), the NDEB of Canada discontinued the three-phase clinical examination. This change resulted in all FTD graduates of non-accredited dental programs to complete a QP, IDAPP, ITDP, IDDCP, or IDDP to be eligible for dental certification and licensure in Canada (Boorberg et al., 2009; Gerrow et al., 1997). These changes are displayed in Figure 3.

In Quebec, the Ordre des Dentistes du Quebec (ODQ) has separate requirements for FTD graduates of non-accredited dental programs. FTDs can apply to the ODQ for a permit to practice dentistry only in the province of Quebec (Boorberg et al., 2009). In order to obtain a permit, FTDs must apply to the Examination and Accreditation Committee of the ODQ for recognition of their dental diploma and training equivalence, pass all written and clinical components of the ODQ Equivalency Test, have a working knowledge of French in accordance with the Charter of the French Language and successfully pass the NDEB Part I and II Examination (Boorberg et al., 2009; Ordre des Dentistes du Quebec, 2008).

## 2.1 Need for Advanced Standing, Qualifying, and Degree Programs in Canada

The decision to institute a requirement to complete an Advanced Standing, Qualifying, or Degree Program prior to licensure in Canada was mandated in order to protect the public. It was deemed necessary to ensure that FTDs were adequately trained (FDI World, 1995). The Federation Dentaire Internationale (FDI) World Dental Federation has conceded that at this time it is premature to claim that dental education programs worldwide have equivalent standards. They support the right of professional



organizations to not uphold the diplomas of dentists whose training and experience is of a lesser quality (FDI World, 1995).

A 1996 study by the NDEB of Canada found that graduates from accredited Canadian and U.S. dental programs performed significantly better on a written examination than did their counterparts from international programs (Boorberg et al., 2009; Gerrow et al., 1998). The exam consists of a two-part written component of 300 multiple-choice items. The OSCE component is a clinical exam that is testing practical application of dental knowledge in a clinical scenario and extended-match question. The written and the OSCE are two different types of formats allowing for the evaluation of two slightly different cognitive domains, one that is didactic and the other clinically based. The written component evaluates the cognition aspect while the OSCE evaluates the cognitive, affective and psychomotor components. The differences in the written examination mean scores between graduates of Canadian and U.S. programs as compared to graduates of international programs were statistically significant. There was a large difference in overall mean scores of 8-15% between the two programs. However, more significant is the passing rates of the NDEB written examination between the two groups. The passing rate of graduates of Canadian and U.S. schools was 93-100%, whereas, graduates of International programs had a 47-68% passing rate (Boorberg et al., 2009; Gerrow et al., 1998). One possible factor that may have influenced the overall scores is the language barrier. The ability to read and interpret a question in English and then answer correctly, may have contributed to the overall difference rather than a lack of content knowledge. It has been argued that the ability to pass an examination is at best a crude measure of dental competence and that it is the

quality of the educational experience that is most significant (FDI World, 1995). For these reasons, the NDEB of Canada has phased out the ability of foreign trained dentists to obtain licensure through a four-part written and clinical examination and as of 2000, requires these individuals to complete a two-year qualifying or degree program at an accredited school (Gerrow et al., 1998). These changes in certification processes have resulted in dental schools developing new modified programs to educate FTDs. The goal of these programs is to ensure that FTDs reach a level of competence that is comparable to the students enrolled in a traditional four-year dental degree program (Boorberg et al., 2009). At the present time there is little data that supports the successful outcome of these types of programs.

With changes necessary, the CDAC, NDEB and the Association for Canadian Faculties of Dentistry (ACFD) were involved in the creation of QP, IDAPP, IDDCP, ITDP, and IDDP (Boorberg et al., 2009; Gerrow et al., 1998). FTD graduates from non-accredited schools must complete any of these programs at a Canadian school of dentistry in order to be able to write the NDEB examination and OSCE (National Dental Examining Board of Canada, 2008). The latter is a station type examination that candidates must complete. The OSCE requires candidates to answer clinical questions with regards to information supplied at the particular station, such as a written case history, photographs, radiographs, dental casts, and models. Each station requires the candidate to answer an extended match-type question with up to 15 answer options (Boorberg et al., 2009; The National Dental Examining Board of Canada, 2008). Similarly, the ability to read and comprehend the English language will have a significant bearing on the candidate's score. Both Regular-stream dental graduates and

QP, IDAPP, IDDCP, ITDP, or IDDP graduates are required to successfully pass the NDEB Written and OSCE in order to gain licensure in Canada (Boorberg et al., 2009; National Dental Examining Board of Canada, 2008).

## 2.2 Differences Between Program Types

The main difference between a QP and ITDP or IDAPP or IDDCP and IDDP is the granting of a degree. The QP and ITDP grant their FTDs a Certificate of Qualification in Dentistry. Upon successful completion of the QP and ITDP and the NDEB examinations, the foreign-trained dentist is eligible for licensure in all the provinces of Canada. The advanced standing IDAPP, IDDCP or IDDP grant the foreign-trained dentist either a D.M.D. (i.e., Doctor of Dental Medicine) or D.D.S. (i.e., Doctor of Dental Surgery) degree. Upon successful completion of the advanced standing program and the NDEB examinations, the foreign-trained dentist is eligible for licensure in all the provinces of Canada as well as the U.S. (American Dental Association, 2006a). As of 2006, the Canadian QP and ITDP are no longer recognized by the American Dental Association (ADA) and the U.S. licensing jurisdictions as meeting the same U.S. educational qualifications (American Dental Association, 2006a). Thus, QP and ITDP graduates are unable to obtain licensure in the U.S., whereas the advanced standing IDAPP, IDDCP, or IDDP graduates can obtain licensure in the U.S. upon successful completion of the National Dental Board Exams Part I and II as well as state licensing exams (American Dental Association, 2006b). The QP and ITDP and IDAPP, IDDCP or IDDP program types are further compared in the next section.

### 2.3 Comparisons of Canadian Qualifying Programs

The universities of Dalhousie and Western Ontario implemented QPs leading to a certificate. The University of Toronto originally created a QP that commenced in 1999. This program continued until May 2007 and was replaced with the International Dentist Advanced Placement Program (IDAPP) (Association of Canadian Faculties of Dentistry, 2005; University of Toronto Faculty of Dentistry, 2008a). Table 2 displays the individual program statistics for each university (Dalhousie University Faculty of Dentistry, 2008b; Edghill, 2007; Grams, 2007; Lyon, 2010; McGill University Faculty of Dentistry, 2008; Paliotti, 2007; Reynolds, 2007; University of Alberta Faculty of Dentistry, 2008; University of British Columbia Faculty of Dentistry, 2008; University of Manitoba Faculty of Dentistry, 2007; University of Toronto Faculty of Dentistry, 2008a, 2008b; University of Western Ontario Faculty of Medicine and Dentistry, 2008; Vowles, 2007; Webb, 2007). In 1998, the University of Dalhousie QP began with its first incoming class of seven FTD students. Today, Dalhousie's program accepts between seven to nine students per year into their two-year QP and has graduated 59 students (Dalhousie University Faculty of Dentistry, 2008b; Webb, 2007). University of Toronto's QP began in 1999 and has graduated 163 students in the original QP (Edghill, 2008). They currently accept 25-29 students annually and their original QP ran separate from the regular-stream dental program (Edghill, 2008; University of Toronto Faculty of Dentistry, 2008a).

The University of Western Ontario's first incoming class was in 1997 with seven new students. Called the Internationally Trained Dental Program (ITDP), it currently accepts between seven to twelve students per year (Vowles, 2007). Since 2003, the

ITDP has created 12 positions for internationally trained dentists. From its inception, the ITDP has successfully graduated 85 students who attain a QP Certificate (Boorberg et al., 2009; Vowles, 2007).

#### 2.4 Comparison of Canadian Advanced Standing Programs

There are currently five Advanced Standing Programs at the Universities of Alberta, British Columbia, Manitoba, McGill, and Toronto. These programs culminate in awarding of the DDS or DMD degree (American Dental Association, 2006b; Association of Canadian Faculties of Dentistry, 2005; Boorberg et al., 2009). The demographics of these programs are compared in Table 2 (Dalhousie University Faculty of Dentistry, 2008b; Edghill, 2007; Grams, 2007; Lyon, 2010; McGill University Faculty of Dentistry, 2008; Paliotti, 2007; Reynolds, 2007; University of Alberta Faculty of Dentistry, 2008; University of British Columbia Faculty of Dentistry, 2008; University of Manitoba Faculty of Dentistry, 2007; University of Toronto Faculty of Dentistry, 2008a, 2008b; University of Western Ontario Faculty of Medicine and Dentistry, 2008; Vowles, 2007; Webb, 2007). The University of Alberta APP commenced in 2000 with the first graduating class in 2002 receiving a DDS degree (University of Alberta Faculty of Dentistry, 2008). The program accepts three to seven students annually. There are currently 22 graduates who have completed this IDDP. The University of British Columbia program began in 2000 and accepts ten students per year with an increase to 15 students commencing in the 2008-2009 academic year (Reynolds, 2007). The program has graduated 72 students (Boorberg et al., 2009; Reynolds, 2007; University of British Columbia Faculty of Dentistry, 2008).

The University of Manitoba IDDP began in May 2003 and was created to meet the growing demands of international dentists wishing to obtain licensure to practice within Canada, more specifically Manitoba (Boorberg et al., 2009). In its first year, four out of 64 applicants were selected for the program. Initial selection was based on the candidates' ACFD Eligibility Examination scores, a minimum score on the English Language Tests scores (International English Language Testing System (IELTS) or Internet Based Test of English as a Foreign Language (TOEFL), autobiographical sketch, clinical dental work experience, and academic credentials (Boorberg et al., 2009). This was followed by an invitation to twenty applicants to participate in an on-site assessment. The on-site testing included psychomotor skills assessment (i.e., tooth preparations and placements of restorations on mannequin models of teeth), an OSCE, and a personal interview with regards to the educational aspects of the candidate's program as well as his/her previous dental work experience. The ability to communicate effectively in the English language was also assessed (University of Manitoba Faculty of Dentistry, 2007). The program accepts four to seven candidates annually. As seen in Table 3, twenty-one have graduated with their DMD degree (Boorberg et al., 2009; Lyon, 2008).

The International Dentist Advanced Placement Program (IDAPP) at the University of Toronto is different from the QP that it replaced, as it accepts international dentists to join the Regular-stream third year dental class, continuing into the fourth year class (Boorberg et al., 2009). This allows for the IDAPP students to be granted a D.D.S. degree following graduation from the program. The previous QP program accepted 25

students annually. However, in March 2007, 29 students gained admittance to the new advanced placement program (Boorberg et al., 2009; Edghill, 2008).

## 2.5 Criteria for Selection for Qualifying, Advanced Standing, and Degree Programs in Canada

Although all of these programs have differences in terms of the selection criteria, numbers of foreign dentists admitted per year and tuition costs, they have some similarities. First, all programs require the candidate to be a graduate of a minimum four-year university dental program that is not recognized by the CDAC. Second, each candidate must successfully complete the Eligibility Examination created by the ACFD within the last two years of application (Boorberg et al., 2009; University of Manitoba Faculty of Dentistry, 2007). The ACFD Eligibility Examination is utilized as a preliminary indicator in assessing the FTDs academic knowledge of biomedical and clinical sciences (Gerrow et al., 1998). Third, all applicants are required to be proficient in both written and spoken English (University of Manitoba Faculty of Dentistry, 2007). Applicants whose first language is other than English must submit proof of English proficiency marks obtained in one of the following tests of English: Test of English as a Foreign Language Problem Based Test (TOEFL PBT), Test of English as a Foreign Language Computer-Based Test (TOEFL CBT), Test of English as a Foreign Language Internet-Based Test (TOEFL IBT), International English Language Testing System (IELTS), Michigan English Language Assessment Battery (MELAB), or the Certificate of Proficiency in English (COPE) (Boorberg et al., 2009; University of Manitoba Faculty of Dentistry, 2007).

Each of the programs can accept two to 29 FTDs annually per faculty (Association of Canadian Faculties of Dentistry, 2005; University of Manitoba Faculty of Dentistry, 2007). This number varies across Canadian Dental Faculties due to infrastructure constraints in the pre-clinical laboratories, lecture halls and the faculty clinic units. Human resources also limit the numbers of applicants accepted. These programs require more dental instructors and support staff, which includes dental assistants, receptionists, and administration personnel to run a program to its full capacity (Boorberg et al., 2009). Depending upon the program type, FTDs within the program are integrated into third and fourth year dental curriculum along with the regular stream dental students. Programs utilizing this approach include Universities of British Columbia, Dalhousie, Manitoba, and McGill (Dalhousie University Faculty of Dentistry, 2008b; Edghill, 2008; University of British Columbia Faculty of Dentistry, 2008; University of Manitoba Faculty of Dentistry, 2007). However, some programs do not integrate the FTDs with the Regular-stream dental students. Their programs are tailored to meet the current entry-level curricular and clinical needs of the FTD candidates. The Universities of Toronto and Western Ontario former IDAP maintain a separate programming to focus on the specific learning needs of their foreign and national (i.e., Regular-stream) students (Boorberg et al., 2009; Edghill, 2008).

## 2.6 University of Manitoba IDDP

The University of Manitoba IDDP was instituted at the Faculty of Dentistry in May 2003 in accordance to other QP and IDDP within Canadian dental faculties. The program was created to meet the growing demands of international dentists wishing to obtain licensure to practice within Canada, more specifically Manitoba. In its first year,



four out of 64 international dentists applicants were selected for the University of Manitoba program. Initial selection was based on the candidates ACFD Eligibility Examination scores, English Language Tests scores (IELTS or Internet Based TOEFL), autobiographical sketch, clinical dental work experience, and academic credentials. Sixteen candidates were invited to the International Dentist Degree Program five-day on-site assessment visit at the University of Manitoba in December 2002. Components of on-site assessment include the psychomotor skills assessment, Objective Structured Clinical Examination (OSCE), and a personal interview. The psychomotor skills assessment involves tooth preparations and placements of restorations on mannequin models of teeth. Applicants have the opportunity to practice their skills during the first two days of the five-day on-site assessment period. The OSCE is a station type examination that requires the candidate to review the case information provided at the specific station. The case information can include a patient case history, dental casts, dental models, and dental photographs. Candidates answer multiple-choice questions based on the given case information. The last component includes a personal interview with a single panel of three university faculty members representing the Faculty of Dentistry. The purpose of the interview is to gain further information with regards to the educational aspects of the candidate's program as well as the candidate's previous dental work experience. The ability to communicate effectively in the English language is also assessed (University of Manitoba Faculty of Dentistry, 2007).

Upon acceptance into the University of Manitoba IDDP, the students attend a seven-week intense summer program that includes lectures, laboratory, and clinical exposure of the various dental disciplines designed to ensure the students are calibrated

to have the same background experiences in terms of didactic content as the regular-stream dental students (Boorberg et al., 2009; Lyon, 2008; University of Manitoba Faculty of Dentistry, 2007). Following the summer session, the students are integrated into the incoming third-year regular-stream dental program. The students have the same clinical, externships, internships, laboratory, and written curricular components as the regular-stream dental students in third and fourth year. Upon satisfactory completion of the third and fourth years of the dental program, students are awarded the Doctor of Dental Medicine degree (D.M.D) at the annual convocation (Boorberg et al., 2009; University of Manitoba Faculty of Dentistry, 2007).

#### *2.6.1 Admission Statistics*

Depending upon the class size of the incoming third-year class, the number of IDDP positions can vary. In 2003, four candidates were chosen for the IDDP. In Table 3, the breakdown of applicants for the IDDP at the University of Manitoba is listed. The numbers of applicants per year varies, ranging from 64 to 102. Table 3 also indicates how many positions are available per year, depending upon the incoming third year class (Lyon, 2010). In the 2003-2004 year, four candidates were accepted into the program, however, in 2005-2006, a maximum of seven candidates entered the program (Lyon, 2010).

#### *2.7 Costs of Canadian Qualifying, Advanced Standing, or Degree Programs*

As seen in Table 4, the costs associated with the Canadian QP, IDAP, ITDP, IDDCP, and IDDP do vary across Canadian dental schools (Boorberg et al., 2009; Dalhousie University Faculty of Dentistry, 2008b; Edghill, 2007; Grams, 2007; Lyon, 2010; McGill University Faculty of Dentistry, 2008; Paliotti, 2007; Reynolds, 2007;

University of Alberta Faculty of Dentistry, 2008; University of British Columbia Faculty of Dentistry, 2008; University of Manitoba Faculty of Dentistry, 2007; University of Toronto Faculty of Dentistry, 2008a, 2008b; University of Western Ontario Faculty of Medicine and Dentistry, 2008; Vowles, 2007; Webb, 2007). In addition to costs associated with the programs, the numbers of positions for FTDs also play a role in the decision to apply to a specific faculty. Table 4 represents a summary of the total costs and its associated breakdown of costs for Canadian programs (Boorberg et al., 2009; Dalhousie University Faculty of Dentistry, 2008b; Edghill, 2007; Grams, 2007; Lyon, 2010; McGill University Faculty of Dentistry, 2008; Paliotti, 2007; Reynolds, 2007; University of Alberta Faculty of Dentistry, 2008; University of British Columbia Faculty of Dentistry, 2008; University of Manitoba Faculty of Dentistry, 2007; University of Toronto Faculty of Dentistry, 2008a, 2008b; University of Western Ontario Faculty of Medicine and Dentistry, 2008; Vowles, 2007; Webb, 2007). There is a range in the total costs associated with application fees, tuition, and kit fees for these programs. The range includes \$88,350 - \$141,415.62 (CDN). The University of Dalhousie program cost is the lowest in Canada, with the highest program cost at the University of British Columbia (Dalhousie University Faculty of Dentistry, 2008b; University of British Columbia Faculty of Dentistry, 2008). Note that the costs do not factor in the cost of living, which is significantly different at the larger metropolitan schools such as the universities of British Columbia and Toronto. Furthermore, traveling expenses and relocation fees must be also factored into the total costs (Boorberg et al., 2009).

## 2.8 Comparison of Canadian Programs for FTDs versus Regular Four-Year Dental Degree Costs

More interesting is the comparison of these programs to a four-year Canadian dental degree program. As seen in Table 5, the total costs associated with Canadian four-year dental degree programs range from \$88,156 to \$198,301.65 (CDN). Therefore, a comparison of the ASP or IDP and QPs with the regular dental degree program at the same university, demonstrates a significant discrepancy in fees as seen in Table 5 (Boorberg et al., 2009; Dalhousie University Faculty of Dentistry, 2008b; Edghill, 2007; Grams, 2007; Lyon, 2010; McGill University Faculty of Dentistry, 2008; Paliotti, 2007; Reynolds, 2007; University of Alberta Faculty of Dentistry, 2008; University of British Columbia Faculty of Dentistry, 2008; University of Manitoba Faculty of Dentistry, 2007; University of Toronto Faculty of Dentistry, 2008a, 2008b; University of Western Ontario Faculty of Medicine and Dentistry, 2008; Vowles, 2007; Webb, 2007). The largest fee difference between a QP and an advanced standing degree program and a regular four-year dental degree is at the University of Alberta. Therefore, the advanced standing degree program fee is \$18,968.76 higher than the regular dental degree program (Boorberg et al., 2009; University of Alberta, 2008). On the other end of the spectrum is the IDDCP at the University of British Columbia which is \$56,886.03 less than a four-year regular degree program (University of British Columbia Faculty of Dentistry, 2007, 2008). More interesting, Dalhousie University has a difference of \$194 (CDN) between the QP and the regular four-year dental degree program (Boorberg et al., 2009; Dalhousie University Faculty of Dentistry, 2008a, 2008b).

The costs associated with the Canadian QP and IDDP do vary in the different dental faculties. In addition to costs associated with the programs, the numbers of positions for FTDs also play a role in the decision to apply to a specific faculty. Table 4 represents a summary of the total costs and its associated breakdown of costs for Canadian QP and IDDP (Dalhousie University Faculty of Dentistry, 2008b; Edghill, 2007; Lyon, 2010; McGill University Faculty of Dentistry, 2008; Reynolds, 2007; University of Alberta Faculty of Dentistry, 2008; University of British Columbia Faculty of Dentistry, 2008; University of Manitoba Faculty of Dentistry, 2007; University of Toronto Faculty of Dentistry, 2008a; University of Western Ontario Schulich School of Medicine and Dentistry, 2008; Vowles, 2007). There is a range in the total costs associated with application fees, tuition and kit fees for Canadian QP and IDDP. The range includes \$81,782 - \$121,015. Within Canada, the University of Manitoba total costs are the second lowest, when compared to the highest fees represented by the University of British Columbia IDDP at a total cost of \$121,015.

### *2.8.1 Canadian QP and IDDP versus Regular Four-Year Dental Degree Costs*

More interesting is the comparison of the QP and IDDP total costs to a four-year Canadian dental degree program. Table 7 represents the total costs associated with Canadian four-year dental degree with the dentistry programs within Canada (Dalhousie University Faculty of Dentistry, 2008b; McGill University Faculty of Dentistry, 2008; University of Alberta Faculty of Dentistry, 2008; University of British Columbia Faculty of Dentistry, 2008; University of Manitoba Faculty of Dentistry, 2007; University of Toronto Faculty of Dentistry, 2008a; University of Western Ontario Schulich School of Medicine and Dentistry, 2008). The range includes \$77,224 to

\$186,562. Due to the limited number of positions for each of these programs in Canada and the U.S., the competition for positions and costs of the programs can determine where candidates may apply. Therefore, cost of each program can play an important role in the application process for future students.

## 2.9 U.S. Education Programs for Internationally Trained Dentists

Dental schools in the U.S. created undergraduate modified dental programs/degrees for graduates of foreign dental schools in the 1970's and 1980's. Programs were developed such as the Program for Advanced Standing Students (PASS) in 1986 to accommodate the growing needs for licensure of FTDs (Lopez & Berthold, 2003). Currently there are thirty-two U.S. dental schools that offer education programs for FTDs (American Dental Association, 1993, 2006a). Advanced Standing Programs were developed in response to most states changing their licensure criteria in the late 1970's. Similar to Canada's Accreditation Council, the individual state licensing bodies in the U.S. required all FTDs to obtain a degree from a dental school accredited by the Commission on Dental Accreditation (American Dental Association, 1993, 2006a). Advanced Standing programs allow FTDs to be admitted into specific dental schools at either the second or third year of the program. These programs are unique as FTDs do receive credit for previous educational experiences in their non-accredited foreign dental school (American Dental Association, 2006a). In addition to the Advanced Standing programs, some U.S. dental schools have developed International Dentist Programs (IDP). There are many different names that schools have adopted for these programs which include the International Dental Education Program (IDEP) or International Dental Studies programs (American Dental Association, 2006a; Itaya, Chambers, &

King, 2008). Currently, there are fifteen IDPs at U.S. dental faculties (American Dental Association, 2006a; Itaya et al., 2008). Some programs run completely separate from the regular-stream dental education programs whereas other programs integrate students into the junior and senior year dental curriculum. The IDP selects FTDs into their programs depending upon the dental school's locally developed selection criteria for internationally educated students who already hold a dental degree (American Dental Association, 2006a, 2006b). Admissions criteria can vary from school to school. However, in most schools, admission into the program is based on performance scores of the American National Dental Board Examinations Part I and Part II, TOEFL scores, a personal interview, letters of reference, a psychomotor skills test, and the performance ratings in the applicant's previous foreign non-accredited school (American Dental Association, 2006a, 2008; Berthold & Lopez, 1994). The purpose of the IDP is to ensure that the foreign-trained dentist receives the same knowledge and skills as dental graduates of accredited programs, and to familiarize the foreign-trained dentist with the delivery of oral healthcare in the U.S. The delivery system includes:

- Procedures and techniques taught and utilized by U.S. dentists,
- U.S. standards of oral healthcare, and
- Characteristics of oral healthcare needs of U.S. citizens (American Dental Association, 1993).

Most of the IDPs grant either a D.D.S. (Doctor of Dental Surgery) or D.M.D. (Doctor of Dental Medicine) degree. However, some of the programs may only grant a Certificate of Completion. Unlike a D.D.S. or D.M.D. degree, the Certificate of Completion may

only satisfy the state licensure eligibility requirements in the state where the program is located (American Dental Association, 2006a, 2008).

### *2.9.1 International Dentist Degree Program Costs in the United States*

The costs associated with the U.S. Advanced Standing and International Dentist Programs are much higher than Canadian counterparts. Table 6 presents a listing of International Dentist Programs available at a select number of U.S. schools of dentistry (Loma Linda University School of Dentistry, 2007; New York University College of Dentistry, 2008; The University of Texas School of Dentistry, 2007; Tufts University School of Dentistry, 2007; University of California Los Angeles School of Dentistry, 2004; University of Colorado Denver, 2007; University of Florida College of Dentistry, 2007; University of Illinois at Chicago College of Dentistry, 2007; University of Minnesota School of Dentistry, 2008; University of Pittsburgh School of Dental Medicine, 2007; University of the Pacific Arthur A. Dugoni School of Dentistry, 2007). There is a range of the total costs associated with application fees, tuition, and kit fees for U.S. programs. Additionally, the total length of the program ranges from two-three years. However, all but one school, New York University, has a two-year program. The range of costs has been estimated from \$90,835 to \$170,516 (CDN) (Boorberg et al., 2009). The range of costs in the U.S. far exceed those of Canadian programs, with the exception of University of British Columbia where the total tuition is \$141,415.62 (CDN) (Boorberg et al., 2009; University of British Columbia Faculty of Dentistry, 2008).

The number of positions that each U.S. school accepts for their programs also varies from school to school. There is a range of positions between ten to 24 students



(Boorberg et al., 2009; Loma Linda University School of Dentistry, 2007; New York University College of Dentistry, 2008; The University of Texas School of Dentistry, 2007; Tufts University School of Dentistry, 2007; University of California Los Angeles School of Dentistry, 2004; University of Colorado Denver, 2007; University of Florida College of Dentistry, 2007; University of Illinois at Chicago College of Dentistry, 2007; University of Minnesota School of Dentistry, 2008; University of Pittsburgh School of Dental Medicine, 2007; University of the Pacific Arthur A. Dugoni School of Dentistry, 2007). As there are sixty-six dental schools in the U.S., Table 6 includes a select number of U.S. dental schools that are specifically associated with universities and are offering the program to FTDs. Table 6 only reports the schools of dentistry reporting their fees and/or number of positions available for FTDs on their website (Boorberg et al., 2009; Loma Linda University School of Dentistry, 2007; New York University College of Dentistry, 2008; The University of Texas School of Dentistry, 2007; Tufts University School of Dentistry, 2007; University of California Los Angeles School of Dentistry, 2004; University of Colorado Denver, 2007; University of Florida College of Dentistry, 2007; University of Illinois at Chicago College of Dentistry, 2007; University of Minnesota School of Dentistry, 2008; University of Pittsburgh School of Dental Medicine, 2007; University of the Pacific Arthur A. Dugoni School of Dentistry, 2007).

### *2.9.2 Programs for Advanced Standing in the United States*

The University of Pennsylvania School of Dentistry instituted one of the first Advanced Standing programs in the United States. Demand for this program is significant with only four percent of the applicant pool being accepted into the University of Pennsylvania Program for Advanced Standing Studies (PASS) (Berthold

& Lopez, 1994; Boorberg et al., 2009). The experiences of the University of Pennsylvania have shown that FTDs differ from regular four-year dental students in terms of cultural values, previous life experiences both professionally and personally, and that most of them are older with families (Boorberg et al., 2009; Lopez & Berthold, 2003). It has been hypothesized that the cultural influences can have a significant bearing on a FTDs' abilities to cope in an U.S. dental school environment (Itaya et al., 2008). These differences result in FTDs needing alternative programs as these students need to be trained in the practice of dentistry in combination with learning to adapt to cultural differences (Boorberg et al., 2009; Lopez & Berthold, 2003).

Studies have shown that the academic performance of international students is affected by several factors such as psychological adjustment, assimilation into a new environment, and socio-cultural adjustment (Searle, 1990; Westwood, 1990). The re-education of FTDs has additional benefits to society besides an increase in the overall number of dentists (Boorberg et al., 2009). The PASS program has graduates who deliver care to various ethnic groups where access to care is a challenge, which may or may not be a direct result of cultural differences alone (Lopez & Berthold, 2003). A survey conducted by the Pennsylvania PASS program found that graduating students generally have a positive experience. However, some PASS graduates had concerns that students in the regular four-year program are only superficially friendly and faculty members do not understand their background as foreign dentists (Berthold & Lopez, 1994; Boorberg et al., 2009). There is no additional literature to further identify or explain other cultural, assimilation concerns and issues as related to the re-education of FTDs in Canadian and U.S. dental universities (Boorberg et al., 2009).

Both medicine and nursing have programs that are aimed to re-educate foreign-trained graduates (Zulla, Baerlocher, & Verma, 2008). Curricular innovation and modifications to the pre-existing curriculum in nursing have accommodated foreign-trained nurses access to academic upgrading, licensure, and employment (Coffey, 2006). In Canada, the International Medical Graduates (IMGs) face many challenges when entering a training program within the medical education system. In addition to securing a residency position within a medical school, IMGs experience additional problems relative to their Canadian counterparts. These include loneliness and social isolation, concerns for family members in their home country, lack of financial resources, worries about visas/immigration issues, and a decrease in social status accompanied by decreased self-esteem (Zulla et al., 2008). Similarly, foreign-trained nurses and IMGs identify that inability to communicate effectively as being one of the biggest challenges (Yahes & Dunn, 1993; Zulla et al., 2008). A study by Magnusdottir (2005) described experiences of foreign-trained nurses after receiving licensure in Iceland. The experiences were identified in five main themes: experiencing strangeness and communication barriers, feeling as outsiders and the desire to be let in, language barriers, a different work culture and environment, and the need to overcome these challenges. These findings are similar to Pilotto et al. (2007) in which IMGs identified the following experiences: changes in social status, difficulty in communication, differences in expectations about teaching and learning. Similarly a study of IMG's by Dorgan et al. (2009) concluded that IMG residents experienced both cross-cultural communication and interpersonal barriers. Therefore, one can conclude that foreign-

trained health professional face a number of social barriers that can impede a smooth transition into North American training programs.

#### 2.10 U.S. - Canada Training Program Similarities and Differences

Both Canadian and U.S. programs have been described. There are evident similarities and differences between the two countries. The demand for placement in the programs as well as the rigorous admission processes is evident. Both countries require a standardized test to evaluate pre-existing academic knowledge of biomedical and clinical dental knowledge, the American National Dental Board Examinations Part I and Part II in the USA and the ACFD Eligibility Examination in Canada (Boorberg et al., 2009; Gerrow et al., 1998). Furthermore, both application processes require proficiency in written and spoken English that is evaluated by a TOEFL score or equivalent and/or a personal interview. Many universities' selection processes involve a psychomotor skill testing of their candidates. However, select schools in Canada and the U.S. do not use this admission testing procedure. The average tuition fee for the Advanced Standing or International Dentist Programs in the selected U.S. universities is \$131,628.45 (CDN) according to Table 5. The Canadian degree programs and QPs average tuition fee is \$103,230.51 (CDN) (Boorberg et al., 2009). Thus, the higher numbers of positions available for foreign-trained dentist in the U.S. programs as well as the higher average tuition fees for the program are the most significant differences between Canadian and U.S. programs (Boorberg et al., 2009).

#### 2.11 Dealing with Globalization

Dental schools in the U.S. have experienced an increase in demand for programs that prepare FTDs for American licensure (Berthold & Lopez, 1994). These demands

are a direct result of globalization (Sweis & Guay, 2007). Globalization has brought forth increased mobility by specific world population segments, increased and accessible means of communication (e.g., internet), change to immigration policy in Canada and the U.S., and increased financial incentives/incomes in developed nations (Boorberg et al., 2009; Dodani & LaPorte, 2005; Vidyasagar, 2006). The increase of FTDs in developing nations is not a new or unique phenomenon. There has been an increase in the training of all types of health professionals in many nations, including physicians, nurses, and pharmacists. Many of these individuals, however, are seeking opportunities to practice in the U.S., Canada, and in the nations of Europe. This immigration phenomenon has been referred to as the “brain drain” from developing nations to developed nations (Boorberg et al., 2009; Dodani & LaPorte, 2005).

Globalization has a significant impact for developing countries. The migration of highly skilled professionals is the result of several factors. These include better post-graduate education and economic opportunities, access to advanced technology, higher salaries, and more opportunities for their children (Boorberg et al., 2009; Dodani & LaPorte, 2005; Vidyasagar, 2006). Studies by the International Organization for Migration (IOM) have identified the driving forces of the migration of health professionals. Firstly, with the rise of the technological revolution and advanced communication technologies, advanced economies in developed countries turn towards developing countries for skilled workers (Roison, 2004). Secondly, developed countries have experienced a decrease in population and a dramatic increase in the elderly population (Roison, 2004). This has led to an increased dependence on the social services sector and foreign health care professionals. Thirdly, there is higher

unemployment among post-secondary educated graduates in developing countries (Roison, 2004). This leads to the “brain drain” phenomenon where skilled workers needed on the global market move to the areas where they will be able to work in the field of their primary interest rather than staying in their own country and experiencing under- or unemployment (Boorberg et al., 2009). For example, working only part-time or perhaps as a lower level provider or being forced to work in a different profession for lack of job opportunities in the field of primary training (Roison, 2004). Canada and the U.S. are benefitting from this phenomenon as more FTDs are applying to programs to receive licensure to practice in both countries (Boorberg et al., 2009).

## 2.12 Stress and the Dental Student Experience

Dentistry as a profession has been identified as highly stressful in all stages of a dental career (Freeman, Main, & Burke, 1995). Dental school is often the time in one’s professional career that the level of stress in one’s life is accentuated (Pohlmann, Jonas, Ruf, & Harzer, 2005). Previous studies have identified sources of stress for dental students. A European study by Pohlmann et al. (2005) found that sources of stress among fourth and fifth year dental students were related to the frequency of tests and exams, a reduction in leisure time, a demanding curricula, social integration, and transition stress. A study of Canadian dental students identified sources of concern and stress throughout their dental schooling. These included a lack of leisure time, procrastination, meeting the expectations of faculty, significant workload, and a sense of feeling powerless within the system (Stewart, de Vries, Singer, Degen, & Wener, 2006). Another Canadian study found that the main stressors associated with undergraduate dental students included academic and clinical work, interpersonal relations, and the

living environment (Muirhead & Locker, 2007). Although each dental student will experience and deal with the stresses of a dental training program entirely differently, the cumulative effects of stressors can have a significant impact psychologically (Stewart et al., 2006). The longitudinal study of University of Manitoba dental students through their entire training period found that the dental students suffered less serious side effects of stress as compared to students in other schools or programs (Stewart et al., 2006). Stewart et al. (2006) believe that this observation was due to the majority of the dental students attending their local dental school. Thus, the dental students were able to maintain their pre-existing social support networks and outside interests and activities to counterbalance the academic and time demands of dental school. The pre-existing social networks which included family, friends, and social activities served as a “stress buffer of sorts” (Stewart et al., 2006). The dental students were better prepared to deal psychologically with the demands of their professional training program over the four years (Stewart et al., 2006). This finding is supported by another study in which Jordanian dental students who lived or moved away from their family home had statistically higher level of stressors than students who lived with their parents (Al-Omari, 2005).

Other health professional faculties are not immune to stress and psychological distress associated with their programs. Literature has shown that medicine and nursing students are prone to these conditions (Birks, McKendree, & Watt, 2009; Dunn, Iglewicz, & Moutier, 2008; Dyrbye, Thomas, & Shanafelt, 2006). Higher levels of stress in healthcare students have been attributed to a number of variables. These include higher demands in course work, a new environment with new people, financial

concerns, mental fatigue, sleep deprivation, dealing with patients, and learning applied clinical skills (Birks et al., 2009; Dyrbye et al., 2006). Stress in healthcare students has been linked with increase levels of depression, the use of drugs and alcohol, as well as increased anxiety (Birks et al., 2009). Nursing students have identified experiencing high levels of stress due to the all-encompassing demands of their undergraduate training. For successful completion of a bachelor nursing degree, most nursing students must meet the demands of training, studying, and supporting themselves through their degree program (Rella, Winwood, & Lushington, 2009).

Numerous studies exist with regard to the stressors associated with a professional dental school training program. However, the stressors associated with an IDDP, QP or Advanced Standing program in North American universities have not been studied at length. Berthold and Lopez (1994) addressed the ease of foreign-student assimilation into their new educational environment at the University of Pennsylvania PASS program. Attitudes towards the program found that 62% of the PASS students indicated that they felt integrated with the regular-stream students. Furthermore, 78% indicated that the integration enabled them to become more familiar with the American lifestyle and culture. Interestingly, a majority of the PASS students (60%) believed that the regular-stream students were friendly only on a superficial scale (Berthold & Lopez, 1994). A stressful situation scale was utilized to identify stress levels among the PASS students. The students indicated that stressful situations occurred more often than rarely. Support during stressful times was obtained in most cases by spouses of family members (70%), followed by friends (44%) and finally fellow PASS classmates (32%) (Berthold & Lopez, 1994). Although this study does examine stress and attitudes



towards the PASS program, it does not further elaborate upon the stressors that foreign-educated dentists experience.

### 2.13 Medicine's Approach to Foreign-trained Doctors

Medicine has accommodated the exodus of health professionals by adding more residency positions for international medical graduates, streamlining the immigration process and the medical training requirements to allow for the direct entry of these international medical graduates into practicing Canadian hospitals and clinics (Mullan, 2005). In the U.S., foreign-trained medical graduates comprised between 23-28% of the practicing physicians. In Canada, 17.6% of the physicians are foreign-trained (Mullan, 2005). In the U.S., physicians from India (4.9%), Philippines (2.1%), and Pakistan (1.2%) constitute the largest numbers of international medical graduates (Mullan, 2005). In Canada, the United Kingdom (4.0%), South Africa (2.6%), and India (2.1%) represent the largest numbers of international medical graduates (Mullan, 2005). In dentistry in the U.S., the following countries were identified as the highest sources of FTDs; India, Philippines, Colombia, Egypt, and Syria (Sweis & Guay, 2007). As of 2002, 23% of licensed Canadian physicians graduated from medical schools outside of Canada (Crutcher, Banner, Szafran, & Watanabe, 2003). Canada has always relied on international medical graduates (IMGs) (Dauphinee, 2006). During the 1970's, Canada had between 30-35% of physicians of IMGs. In the years 2000, 2003 and 2004, the percentage of physicians who were IMGs in Canada were 23.1%, 22.6% and 22.3% respectively (Pong, 2005). Rural areas within the provinces of Newfoundland, Saskatchewan and Manitoba are predominantly underserved by Canadian medical graduates (Pong, 2005). IMGs serve as a way to reduce the rural shortage of doctors

(Dauphinee, 2006). Canada continues to experienced significant decreases in the number of Canadian-trained medical graduates (Dauphinee, 1996; Ryten, 1998). Furthermore, physicians have diminished productivity due to an aging workforce and a misdistribution of the current workforce resources (Dauphinee & Buske, 2006). Canada has had to accelerate the number of IMGs to compensate for the overall physician shortage (Dauphinee, 2006). However, one of the major barriers for IMGs in larger cities is the availability and opportunities for further postgraduate medical training. There are postgraduate clinical enhancement programs for IMGs in seven provinces. However, the programs are very competitive and these programs are specifically intended to fill doctor regional needs (Dauphinee, 2006). As mentioned above, medicine has a long-standing experience in re-educating, standardizing, and granting licensure to foreign-trained medical doctors. This is not the case for dentistry.

#### *2.13.0 University of Manitoba International Medical Graduate Program*

The University of Manitoba Faculty of Medicine has an International Medical Graduate Program that assists foreign-trained physicians to obtain Canadian medical licensure to practice as primary care physicians in Manitoba (University of Manitoba Faculty of Medicine, 2007). This program is called the Medical Licensure Program for International Medical Graduates (MLPIMG) (Manitoba Health, 2007). Unlike the University of Manitoba Faculty of Dentistry's International Dentist Degree Program, the MLPIMG program includes a number of steps that must be fulfilled prior to receiving licensure. Candidate criteria for the program include the following: a permanent resident of Canada, a resident of the Manitoba province for six consecutive months, have one year of post-graduate medical training that is acceptable to the College of Physicians

and Surgeons of Manitoba, practiced primarily as a general practitioner, not been out of practice for more than seven years, and has obtained a pass standing on the Medical Council of Canada Evaluating Examination (Manitoba Health, 2007). Based on the above selection criteria, the selection committee will select candidates to participate in the Clinicians Assessment and Professional Enhancement (CAPE) process.

### *2.13.1 The Clinicians Assessment and Professional Enhancement (CAPE)*

#### *Process*

The CAPE process is a three-day assessment process with four components that include multiple-choice questions, an interview, therapeutics assessment, and an evaluation of clinical and communications skills using standardized patient case histories (Manitoba Health, 2007). Based on the results from the CAPE, the MPLIMG committee will recommend foreign-trained physicians who can receive medical licensure in Manitoba. If there are deficiencies in core areas of medical training based on the CAPE process, the MPLIMG committee will recommend that the candidate received “Enhanced Training” in the areas of deficiencies. Therefore, the program does not involve a set amount of years or a summer program, but is tailored to the individual if there are skills that are deficient or weak. This individualized training program to achieve competency must be completed within one year.

Regardless of whether the candidate is required to complete the Enhanced Training after the CAPE evaluation, foreign-trained medical physicians receive conditional registration with the College of Physicians and Surgeons of Manitoba. Upon receiving conditional registration, the foreign-trained medical doctor can begin working as a primary care doctor in an under serviced area within the province of Manitoba. The

foreign-trained medical doctor will report to a medical practice advisor for medical support and guidance and will have mandatory audits of his/her clinical practice. Additionally, he/she will have up to five years to obtain Licentiate of the Medical Council of Canada (LMCC) and up to seven years to obtain the Certificate of the College of Family Physicians of Canada (CCFP) (Manitoba Health, 2007).

A current literature search in PubMed revealed that there are published articles regarding the assessments of foreign-trained professionals in Canada and the U.S (Crutcher et al., 2003; Gozu, Kern, & Wright, 2009). Most closely related to dentistry is the health profession of medicine. Similar to FTDs programs, there are only a set number of positions for IMGs in Canadian residency program (Crutcher et al., 2003; Szafran, Crutcher, Banner, & Watanabe, 2005). Foreign-trained physicians must apply to and obtain a residency position in Canada through the Canadian Resident Matching Service (CaRMS) match (Crutcher et al., 2003). It is estimated that there are approximately 2,000-4,000 unlicensed IMGs in Ontario, whereas British Columbia has 400, and Alberta 160 (Crutcher et al., 2003). In 2002, 650 IMGs applied to the CaRMS and of those IMGs, only 11% were accepted into a residency program (Szafran et al., 2005). In the U.S., IMGs are faced with similar challenges as their Canadian counterparts. Approximately 25% of practicing physicians in the U.S. are graduates of medical schools outside of the Canada and U.S. (Gozu et al., 2009). Of the number of residency programs available in the U.S., IMGs have the added difficulties of acculturation into both a new health care system and the U.S. culture (Gozu et al., 2009).

The literature demonstrates that when compared to non-IMGs, IMGs perceived that there are insufficient opportunities for assessment, significant financial barriers to

training, and licensing barriers to practice (Szafran et al., 2005). Research has found that Canadian and U.S. IMGs share similar characteristics. IMGs are likely to be older, more likely to be married with children, spoken English was a foreign language, less debt related to medical school training (Crutcher et al., 2003; Gozu et al., 2009). Due to the limited number of residency positions for IMGs and the social pressures to obtain a residency position, IMGs will apply year-after-year to access a training program (Crutcher et al., 2003).

#### *2.14 Differences in performance between IMG and North American trained medical graduates.*

There is no research available with regards to performance differences between FTD graduates of Advanced Placement or Degree Completion dental program versus regular-stream dental graduates in North American universities. As a result, one must turn to other health professional fields in order to determine if there is any research in this area. In medicine, there is evidence identifying differences between IMG and Canadian-trained medical residents in their residency programs and on their final examinations. A Canadian study by Andrew (2010) determined that 58% of IMG medical residents in family practice passed their Canadian Certification of Family Practic Examination (CCFP) compared to 95% of Canadian-trained residents in family practice. Findings in the study by Blonski and Rahm (2003) support the above study. In this study, academic performance was compared between U.S. medical graduates and non-U.S. international medical graduates in U.S. family practice residencies. The study found that a higher proportion of IMGs compared to U.S. medical graduates scored in the lowest tenth percentile of In-Training Assessment Examination (7.8% versus 2.5%)

and required remediation training (7.8% versus 3.2%) (Blonski & Rahm, 2003). Similarly, Boulet et al. (2006) found that U.S. medical students outperformed non-U.S. IMGs in the United States Medical Licensing Examinations Steps 1 and 2 Clinical Knowledge, in the 1994 and 1995 academic years. Furthermore, within the non-U.S. IMG subgroups, first time takers, younger examinees, recent graduates from non-U.S. medical schools, and native English speakers performed better overall than their counterparts. The researchers attributed the differences in passing rates and scores between U.S. medical graduates and non-U.S. IMGs to be the result of one or more of the following factors: variability in medical school education programs, educational content, curriculum length, availability of clinical experiences, as well as student selection criteria (Boulet, Swanson, Cooper, Norcini, & McKinley, 2006).

A study performed by Gonsalves et al. (2005) in which Family Practice Residency directors were asked to participate in a national survey of how they perceived their IMG residents were performing. Although only a 35% respondent rate was obtained, the study determined that 25% of residency positions were filled by IMGs and this was comparable to the 2001 national match data of 24% (Gonsalves, Wrightson, Love, & Torbeck, 2005). Program directors perceived that when difficulties arose with IMGs in their residency programs, the main reason was due to educational differences and experiences in medical school. The program directors acknowledged that “most IMGs, like U.S. graduates have skills and knowledge that can be developed especially if the appropriate knowledge deficiency can be identified and the appropriate educational methodologies are implemented” (p.7) (Crutcher et al., 2003; Gonsalves et al., 2005).

Furthermore, approximately 70% of program directors agreed strongly with statements comparing non-U.S. IMGs negatively to U.S. graduates (Gonsalves et al., 2005).

The Canadian research indicates that IMGs continue to experience difficulties with passing the CCFP examination despite being carefully selected from a pool of highly competitive individuals. The explanations for these results have been attributed to language barriers and cultural barriers (Andrew, 2010). In the Andrew study (2010), IMG family practice residents on average were 40 years old, compared to the Canadian-trained resident average age being 30 years. Furthermore, most IMGs had family responsibilities and children ranged in age from newborn to university students. Finally, English was not the first language for all the residents (Andrew, 2010).

### *2.15 Need for Advanced Standing, Qualifying Programs and International Dental Degree Programs*

There are two primary reasons that underlie the need for qualifying programs or degree programs at Canadian Dental Faculties. First, there is an anticipated nationwide shortage of dentists. Secondly, these programs are required in order to meet the growing trends of immigration of health professionals to Canada and the U.S. It has been hypothesized that within the next five to ten years, there will be a shortage of dentists in Canada as a result of a large number of the baby-boomer dentists who will retire from dentistry between the years 2005-2010 (Boorberg et al., 2009; Brown & Raborn, 2001). Furthermore, more than 50% of dental students in Canadian universities are female. Thus, it has been predicted that there will be fewer full-time dentists because there is evidence that female dentists are more inclined towards part-time practice (Boorberg et

al., 2009; Brown & Raborn, 2001). Also noteworthy, female dentists have a shorter career length by fifteen years on average when compared to their male colleagues (Brown & Raborn, 2001). The literature supports that women on average, work slightly fewer weeks per year and fewer hours per week, are less likely to be practice owners, and are more likely to take a leave of absence for child rearing (Boorberg et al., 2009; Dolan, 1991; Niessen, 1992). Finally, the changes to the NDEB of Canada in 2000 resulted in a projected reduction of FTDs in Canada by 30-40% each year (Boorberg et al., 2009; Brown & Raborn, 2001). Second, these programs are required in order to respond to the growing number of health professionals who are immigrating to Canada as previously discussed.

#### 2.16 The Need for Exploring IDDP Students' Educational Experiences, Perceptions, and Adaptations in Dentistry

At the present time, there is very limited research in dentistry regarding the current modified programs that exist for FTDs. Literature on the effectiveness of programs for training foreign dentists is not available and present at this time. Secondly, there is limited data on the experiences of IDDP or QP students and how they deal with stressors during their education in these programs.

Part I of the study was an exploration of the IDDP student experiences in a Canadian dental faculty over their two-year program. As an exploratory study, it focused on the overall program experiences of IDDP students upon graduation. More specifically, the aim of the study was to evaluate various demographics, stressors, social networks, clinical and non-clinical experiences, and the interpersonal relationships at various levels. Also of interest, the social and family networks of IDDP students were



explored to identify positive and negative factors to the IDDP student experience. The overall goal of this study was to better understand the student satisfaction and experiences of the program. The objective of Part II of the study was to determine if there were any statistically significant differences between the IDDP and regular-stream dental graduates in terms of clinical and didactic grades, overall GPA, and NDEB written and OSCE scores. Therefore, the findings in both Part I and II of the thesis study will provide guidance for future cross-institutional studies of the qualifying or degree programs that are offered at Canadian universities.

## CHAPTER 3 METHODOLOGY

### 3.0 Study Objectives

The objectives of Part I of the thesis were to identify educational experiences, perceptions and adaptation to the IDDP at the University of Manitoba. The objective of Part II of the study was to determine if there were any significant statistical differences between the two groups, IDDP and regular-stream dental graduates, in terms of performance indicators.

### 3.1 Research Methods

The following qualitative research questions guided the research project (Part I):

- Do FTDs in the IDDP perceive to feel accepted and integrated within the Faculty?
- How well do the IDDP students re-adapt to student life?
- What types of support systems exist for IDDP students?
- How satisfied are IDDP students with their educational experiences of the program?

For part II of the study, this was an exploratory study in terms of comparing the two groups, IDDP and RSDG. The researcher maintained an open-ended research question with no expectations of which cohort would perform higher than the other.

### 3.2 Study Design

Part I of the study was an exploratory, qualitative study design, focusing on an archival dataset collected over four consecutive years from 2005 - 2008. The semi-structured interview with probing questions was conducted based on a series of pre-

defined questions from the “International Dentist Degree Program Outcome Assessment Interview Questionnaire” (see Appendix A). Part II of the study was based on an archival dataset and quantitative statistical analysis which evaluated the mean differences between the two groups, not individual differences.

### 3.3 Participants

Part I of the study included subjects that were graduating IDDP students from the program at the University of Manitoba, Faculty of Dentistry, in each of five years, beginning in 2004 and ending in 2008. Part II of the study included IDDP graduates and RSDG from 2003-2011. 37 IDDP graduates and 246 regular-stream dental graduates were included in this study. Three regular-stream dental graduates data were not utilized in the study, as there were no corresponding NDEB Written and OSCE scores for these students. In analyzing the differences between the two groups on the two outcome variables, NDEB Written and OSCE scores, only 31 IDDP graduates and 215 regular-stream dental graduates were included. This was due to the fact that the NDEB written and OSCE scores had not been released to the University of Manitoba Faculty of Dentistry at the time of ethics approval.

### 3.4 Ethical Considerations

An application was made to the University of Manitoba Health Research Ethics Board by the Director of Educational Resources and Faculty Development to obtain data and to administer the questionnaire to IDDP students who had enrolled at the university in the 2004-5 year and renewal requests were further granted for each of the three following consecutive academic years (Appendix B and C). This application dealt with various issues, including confidentiality, debriefing, and informed consent. Approval

was initially received from the Health Research Ethics Board on April 20, 2005 and each year thereafter (see Appendix B). The data was initially collected for administrative purposes by the office of the Director of Educational Resources and Faculty Development and is stored in a secure file on the research computer (see Preface for details). Ethics approval for the Masters of Education thesis project (Part I) was submitted to ENREB and was obtained on June 1, 2010 (see Appendix D). The transcribed interviews were handed over to the researcher at this point with the student names and numbers removed. All identifying features from each interview were not present to protect the confidentiality of the participants. The hard copies of the data were locked in a file cabinet in the researcher's office. The data, both hard copies and electronic files, will be destroyed in seven years following the study. Ethics approval for the Masters of Education thesis project (Part II) was submitted to ENREB and was obtained on June 6, 2011 (see Appendix E).

### 3.5 Survey Instrument

The "International Dentist Degree Program Outcome Assessment Interview Questionnaire" was designed specifically for this study (see Appendix A). It included a total of 71 questions. The first 23 questions focused on demographics (e.g., age, gender, years in private practice since graduating in their home dental institution, marital and family status, and the number of schools applied and accepted). A set of 36 Likert-type questions followed. Each of these questions had an open-ended questions which was designed to further probe the participant concerning details of her/his ratings. The Likert-type questions were categorized into seven areas: focusing on prior IDDP experiences, acceptance and integration within the program, treatment by faculty,

instructors and staff, re-adaptation to student life, relationships with students, the demands and stresses of the program and the success of the program in relationship to obtaining Canadian licensure.

Each of the question categories had a specific purpose. For instance, those related to integration and acceptance into the program focused on a student's perspective of integration and treatment within his/her class, dental school and the faculty. Questions related to re-adaptation to student life were introduced to identify whether or not the IDDP student felt he/she was in a supportive environment with enough access to financial and supportive resources, patients, and faculty. Questions focusing on the demands and stresses of the program sought to identify the types of stressors, if any, associated with the program. Finally, questions focusing on the program in relationship to obtaining licensure were evaluated through questions probing necessity of the program and preparedness for the NDEB Exams.

### 3.6 Rationale for Questions

The semi-structured interview with probing questions was instrumental in identifying areas in the current program that needed refinement. Results from the interviews were beneficial in the following manner:

- To identify areas or disciplines in the degree program that required modification to the curriculum in order to better prepare the IDDP student to become a dental practitioner in Canada.
- To identify stressors associated with the IDDP students during the program.
- To assess the needs (e.g., both academic and psychological) and identify the expectations of the IDDP students during the program and upon completion.

The questions included in each of the above categories were developed to address the goals of the study. First, as the program is new to the University of Manitoba, Faculty of Dentistry, the questions were created in order to gain insight into the overall program experience for the IDDP students. Second, the data set and evaluation of the data were explored to yield valuable program information as well as the perspectives of the IDDP students on the program. As the population being examined in this study was a foreign-trained individual, cultural and assimilation information can be gained from the questionnaire questions. Third, the overall needs of the graduating IDDP students were also addressed. Academic and psychological needs questions were developed in order to address if the program was able to fulfill the needs of its students. Emotional wellbeing as well as academic preparedness for graduation were important factors in terms of defining professional success.

### 3.7 Data Entry

For Part I of the study, the semi-structured interview with probing questions was completed and audio taped via one-on-one interviews by the Director of Educational Resources and Faculty Development. The Director collected the data and stored it for administration purposes for future strategic planning. Student names and numbers were removed and the interview tapes were coded and transcribed verbatim by a research assistant. All records were locked in a file to be destroyed after seven years.

For Part II of the study, the archived dataset from 2003-2011 was obtained from the University of Manitoba Faculty of Dentistry. The anonymity of the data was maintained by the Director of Educational Resources and Faculty Development who coded each graduate by a number and removed the identifying student names and

numbers. The subjects were coded as either an IDDP graduate or a RSDG. The data was locked in a filing cabinet in the principle investigator's office and will be destroyed after seven years.

### 3.8 Qualitative Data Analysis – Study Part I

The qualitative data analysis of the transcribed data proceeded according to the steps as ascribed by Creswell (2005). All 19 transcribed interviews were reviewed by the researcher. The dataset was evaluated utilizing the qualitative applied action research design method (Creswell, 2005) as indicated below:

1. Transcribed interviews were analyzed carefully for the identification of common codes among the interviews (see Appendix F for an example).
2. Codes for the data set were developed manually.
3. Codes were re-analyzed and re-grouped manually to reduce the number of overall codes. Pattern seeking and synthesizing of codes helped the development of themes.
4. Codes were analyzed manually for themes.
5. Codes were separated manually into various thematic categories.
6. Thematic analysis revealed various common themes among the data.
7. Discussion and conclusions regarding themes emerging from the data set were stated.

### 3.9 Rationale for the Use of Archival Data

In order to analyze the dataset, qualitative applied action research analysis was utilized with respect to program evaluation. The pre-existing data set that was collected by the Director of Educational Resources and Faculty Development for the primary use

of program review and refinement was used for the present study. According to Schensul, Schensul, and LeCompte (1999), archival data are “materials originally collected for bureaucratic or administrative purposes that are transformed into data for research purposes” (p. 202). As mentioned in the preface, the data was collected by the Director of Educational Resources and Faculty Development for the original purpose of providing formative feedback to the Faculty of Dentistry administration for program refinements. However, since the data was never analyzed, just collected, formative feedback had not been provided. Upon completion of the current thesis, formative feedback will be provided to the IDDP administrative team responsible for programs. The thesis utilized the archived dataset for another purpose: to identify and describe IDDP student educational experiences, perceptions, and adaptations to the IDDP program. By addressing the above research questions, the researcher was hopeful to better understand and identify the experiences of the IDDP students within the program. As the individuals applying for and securing positions with the IDDP are professionally and personally in a high stake position, it was important to further investigate and address whether these programs are indeed beneficial for the foreign-trained dental student. The literature presents significant research and information regarding the assimilation into the main culture. However, research is lacking in how foreign-trained students perceive their learning environments, especially when it comes to health professional re-training programs in dentistry. This thesis identified important future research questions as it pertains to the re-training of FTDs in a Canadian-based university.



Archival data can be analyzed in the same manner as secondary data. It is utilized as a method of analysis in which “one can re-examine an existing data set in an attempt to reach new interpretations, conclusions or additional knowledge” (p. 61) from the findings (Liang & Lawrence, 1989). Most importantly, this method is used in research to explore new relationships, to validate findings from the original studies and/or to refine existing theories (Liang & Lawrence, 1989). Archival data analysis, like secondary data analysis, facilitates the analysis of a pre-existing data set in a different way or to answer a different question than originally intended. Archival data analysis has many advantages. First and foremost, is the ability for the researcher to answer a research question from an existing or archival dataset. These advantages include reduced financial costs, an expedition in research findings to the public, saving research time, and less logistical problems that are associated with data collection in general. More beneficial is the decreased sensitivity to sampling error, which in turn, allows the research findings to be more applicable to the population in questions (Black, 1995).

### *3.10 Quantitative Statistical Analysis of Data – Study Part II*

Descriptive statistics, including the mean, standard deviation, standard error, and minimum and maximum values were calculated for the two groups for each of the outcome variables studied (i.e., clinical grades, didactic grades, final GPA, NDEB Written and OSCE scores).

### 3.11 Limitations of the Study

#### *3.11.1 Archival Data Sets*

Although, archival data has benefits for the researcher, the potential drawbacks in this particular study must be considered in the overall picture. In the present study, five limitations were identified.

Firstly, is the limited control or input with regards to the interview questions. Although I was involved in the research team that helped design the research questions, it is still important to validate the research questions at hand. In order to do so, a number of methods can be utilized to verify the findings (Miles & Huberman, 1994). In qualitative research, the use of member check to establish validity of the data analysis can be utilized (Macnee & McCabe, 2008). Given that the data analysis had not yet occurred in the original archived data set, this was not an issue. Moreover, it was important to ensure that the data transcribed truly reflected the interviews captured by the audiotape. The Director of Educational Resources and Faculty Development was contacted and stated that each of the transcriptions had been verified for validity by comparing the audiotapes with the transcriptions for accuracy in recording. In some cases, some words were incorrectly transcribed and these were changed to accurately reflect what had been stated. In one case, unexpected background noise during the interview, made it challenging to transcribe one short statement. This statement was dropped from the archived data at time of entry. Based on this information, the current researcher is satisfied that the rigour in the original data collection is of the quality that will benefit the current research study (Macnee & McCabe, 2008). Thus, the two above

concerns in using archival data set have been identified and are at best nominal to the present study.

Secondly, the negative aspect of secondary data analysis is the notion of an outdated dataset (Mason, Tauber, & Winsborough, 1977). This is not the case with the archived dataset, as it was current at the start of this project, having its last data collection date on April 2008. One may argue that generally, the data is applicable, as social situations generally remain constant over time (Hukim, 1982). Furthermore, re-evaluation of the data may provide insight into a new area of investigation that may have been overlooked or not applicable within the original research study (Mason et al., 1977). In the present study, the data set was collected over a period of five years ending in 2008 and thus, the data is current, relevant and valid.

Another potential drawback of archival data is that fact that it does not permit the research question to be formed by the design methods to answer the research questions at hand. Furthermore, the archival data is only as good as the research that preceded it (Mason et al., 1977). The data collected are not only valuable as formative feedback for mid-program refinements as originally intended, but more importantly, the data provides information on the trends of the IDDP student experience including their educational experiences, perceptions, and adaptation to the IDDP that has not been previously explored or documented.

Next, data collected for another purpose of research may not contain all the variables of interest to the researcher (Mason et al., 1977). However, the data collected in the present study serves to provide a rich set of variables that will provide an important first step to this type of research. Furthermore, the lack of information with

regards to the data collection may also restrict the confidence in the archival data analysis (Mason et al., 1977). In this case, I was involved in the research team that developed the study, formed the original interview instrument, identified and created pertinent questions for the interview and thus, was privy to the data collection process. Finally, concerns about coding strategies, subject criteria, setting, and the sequence of survey items have been identified as issues related to working with archival data (Black, 1995; Kiecolt & Nathan, 1987; Liang & Lawrence, 1989). Given that the original researcher had the data transcribed verbatim and not further categorized, coded, or analyzed, the archival data is not challenged by these concerns. Thus, I am confident that the above limitations are at best minimal, and the archival data analysis is a reasonable approach for the following research.

### *3.11.2 Secondary Data Analysis*

As the archival data was analyzed by the researcher, there are five limitations that needed to be addressed. First, the researcher needed to achieve confirmability of the data by maintaining an audit trail during the data analysis. This is common practice in order that any other researcher can verify that the original data analysis was consistent (Macnee & McCabe, 2008). Second the researcher needed to ensure transferability of the dataset, another aspect of qualitative data analysis that is important in demonstrating rigour and validity of findings (Miles & Huberman, 1994). The use of external checks can validate the research findings (Macnee & McCabe, 2008). In this particular research project, the researcher presented the themes that have been derived from the archival data to a second group of similar participants to determine whether this group agrees with the ideas of themes captured and transcribed from the original participants. One

must be aware that transferability of the data set is different from generalizability. The focus of transferability is not on using the present results to predict the outcomes of a general population. Rather, it was important that what the original participants identified as meaningful is paralleled to a different group or setting (Macnee & McCabe, 2008; Miles & Huberman, 1994).

First and foremost, the most significant limiting factor of the above study was the number of participants. Due to the longitudinal nature and small number of individuals granted a placement in the IDDP annually, approximately four to seven students per year, the overall sample size is smaller than desired. The number of IDDP graduates who participated during the five years was nineteen. Ideally, all students ( $N = 37$ ) in the IDDP from 2003-2008 participating in the interview would be desirable for this thesis, however for qualitative research, the sample size is adequate. Sandelowski (1995) indicates that “determining adequate sample size in qualitative research is ultimately a matter of judgment and experience” (p. 181) and that researchers must evaluate the quality of the information collected. In qualitative research, researchers typically wish to continue sampling until transformational redundancy or saturation occurs with the data. Transformational redundancy or saturation occurs when no new information or themes emerge from the data regardless of increasing the sample size (Miles & Huberman, 1994). Morse (1994) recommends that qualitative research focusing on the essence of experiences include about six participants. Obviously, numbers of participants have an important place in ensuring that the sample size is adequate to support the research. As the present study was an exploratory (first of its

kind) study relying on archival data, the sample size was larger than required by the Morse (1994) to provide preliminary findings that will guide future research in this area.

## CHAPTER 4: RESULTS

### 4.0 Thematic Coding

Upon examination of the interview transcripts, content analysis yielded data that describes the educational, personal, and professional perspectives of the IDDP at the University of Manitoba. The transcripts were analyzed by the researcher and codes were developed. The codes were then re-grouped in order to reduce the overall number of codes. The synthesizing of codes allowed for the development of themes. The data set identified five separate themes (see Table 8). The themes are identified as: (1) isolation and physical relocation issues (i.e., from friends, family and their culture), (2) personal and professional demands of the program (i.e., maintaining home life with spouse and /or children as well as the professional demands of a dental student), (3) emotional stress associated with the program, (i.e., personal struggles and financial stresses), (4) re-learning a system (i.e., both cultural and professional), and (5) overall program satisfaction (Table 8). In total, nineteen interviews (51.4% of the total IDDP population) were conducted over the five years of the study, thus attaining a broad representation of the students within the program.

### 4.1 Qualitative Validity

An external check was performed by the Director of Educational Resources and Faculty Development with another group of individuals who were similar to the original group. This second group consisted of two IDDP students who recently graduated from the program in May of 2011. This step was executed in order to verify that the themes identified by the researcher were indeed correct and transferable. Two senior IDDP students volunteered and met with the Director to provide an external check of the study

findings as reflective of current IDDP students. To ensure equal representation and similarity to the study cohort, IDDP students who participated included each gender, one married with children and one single, one younger and one older student, and from two different countries. These two current IDDP students met with the Director individually. A PowerPoint presentation was shown to each of the students which included the study objectives, study design, survey instrument, results with themes identified, and summary. The Director requested that the IDDP students reflect on each of the main themes defined by the study and to evaluate the similarity between what the study found and the current IDDP student's experience. The Director took notes of the IDDP student comments and later transcribed each interview. When comparing the transcriptions, comments regarding the themes presented to the two students were similar. Both students agreed with each of the themes identified in the study: isolation and physical relocation issues, personal and professional demands of the program, re-learning the system, and overall program satisfaction. Although both students agreed with the theme of emotional stress associated with the program, they felt that this particular theme was not unique to the IDDP cohort. Only the IDDP students may have felt higher levels of emotional stress. For instance, one stated that "all students experience this, not just IDDP students. But it is experienced by the IDDP student as a significant stressor". The second student indicated that this theme was "not unique to IDDP students however, still seen as a major stressor regardless. For IDDP students, seem to be more serious and more committed". An interesting observation from the transcriptions was that both students reflected on their exchanges with their peers from other IDDP type programs across Canada and kept mentioning that even though they experienced each of the above



themes, the stressor levels reported by their peers were much higher at the other programs. Therefore, one can conclude that the themes identified by the researcher are indeed representative and transferable to IDDP students within the program at the University of Manitoba Faculty of Dentistry. The validity of the data could be further confirmed if member validation were to occur, thus, the results were presented to the original study participants (Silverman, 2010). However, this could not be accomplished as the anonymity and confidentiality of the participants' would have been compromised. Therefore, one can deduce that the thematic analysis of the results was fairly accurate and representative of the larger IDDP cohort that participated in the initial study.

#### 4.2 General IDDP Population Demographics

Thirty-seven students gained acceptance into the program during 2002-2009<sup>1</sup>. Demographics of these 37 FTD revealed that the highest representation of students were from India (29.7%), Middle East countries (24.3%; i.e., Iran, Iraq, Lebanon, Saudi Arabia), Egypt (16.2%), European countries (10.8%; i.e., Romania, England, Scotland), Dominican Republic (5.4%), and other countries (13.5%; i.e., Mexico, China; see Figure 4). Examination of gender revealed 47.4% (N= 9) were females and 52.6 % (N= 10) were males.

#### 4.3 Participants' Demographics

As displayed in Table 9, the average age of the participating IDDP students was 32.9 years of age (SD = 3.11). A total of 47.4% (N= 9) were females and 52.6 % (N= 10) were males. The majority of the participants (73.7%) relocated to Manitoba with a spouse, or a child or children and the remaining 26.3% of participants relocated as a

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<sup>1</sup> Information about the general IDDP population demographics was available from the IDDP office.

single person. Furthermore, the majority of participants were married with children (47.4%) and the remainder were married with no children (26.3%) or single (26.3%). Please refer to Table 10 to view the breakdown of the above information. As displayed in Table 9, participants applied to an average of 3.4 Canadian programs and an average of 0.55 U.S. programs. All participants applied to more than two QP or ASP in Canada. The average number of years in private practice in the participant's country was 4.65 years (SD = 3.014) with a range between zero and fifteen years. When compared to regular-stream dental classes from 2003-2009, the demographics differences between the two groups is fairly evident. For the regular-stream dental group, the average age was 23.8 years whereas the IDDP student average age was 32.9 years. The proportion of females to males was 55.6% and 38.3% respectively, which differs from the IDDP averages of 47.4% and 52.6% (Lyon, 2010).

#### 4.4 Findings and Themes Emerging from the Research

As seen in Table 8, five main themes emerged from the analysis of the dataset. The themes are identified as: (1) isolation and physical relocation issues (i.e., from friends, family and their culture), (2) personal and professional demands of the program (i.e., maintaining home life with spouse and /or children as well as the professional demands of a dental student), (3) emotional stress associated with the program, (i.e., personal struggles and financial stresses), (4) re-learning a system (i.e., both cultural and professional), and (5) overall program satisfaction. Please refer to Table 11 for the identification of themes and subthemes and the percentage breakdown of each of these subthemes. Each of these themes is further reported below.

#### *4.4.1 Isolation and physical relocation issues*

A total of 84.2 % of the participants identified isolation from friends and family as a significant factor when moving to a city in which the program was held. All of the participants moved to Winnipeg, and thus, relocating to the program city did create to some degree, stress and obvious change. As stated by one graduate, “ I moved to Winnipeg by myself, leaving my family in Ottawa. It was stressful”. Another participant expressed the stress of moving away from family and friends. She/he coped with this stress by maintaining contact with her/his immediate family members during the program. She/he stated, “there is stress in relocating when you do not know anyone or know the city. I am in phone contact with my mother and sister all the time, that keeps me going”. Furthermore, another participant commented on how emotionally difficult and stressful the entire process was to experience. “Most immigrants coming here, especially professionals, they go through a lot with the whole process of going through immigration, coming here and starting a new life. All of that is hard, coming to a whole new country, new system”. Another participant identified in the interview that “the first year coming to Winnipeg was the toughest because I had no friends and then got better once I had some friends”.

The theme of isolation was re-iterated throughout the interview. Participants (73.7%) vocalized how they felt isolated or considered different when integrated with the regular-stream dental students. Furthermore, they had heard rumors from previous IDDP graduates that not all regular-stream dental classes were as welcoming to the new IDDP students. These concerns are reflected in the following statements; “you would feel the isolation, feel that you are different” in addition to “there is some isolation for

sure, you have to be prepared for it”. One participant described her/himself as an outsider, “we are not supposed to be treated like outsiders, that wouldn’t be fair”.

In terms of dealing with the isolation from one’s family and culture, 47.4% participants established connections with their cultural communities through religious worship and community clubs. One participant described attending Muslim prayers on Fridays on the university campus, thus reconnecting with other Muslims who were in the health professional programs within the University of Manitoba.

#### *4.4.2 Demands of the program*

This overall theme evolved around the demands of the IDDP with over-arching sub-themes. All participants reported that the demands of the program itself extended personally and professionally, which in the end, created a stressful or challenging school environment. One participant stated her/his family was often times, second to school. “It is tough for my family.... there was mostly lab works so we have to stay behind after school finishes sometimes till 7 or 8 o’clock that night. We start the day at 8:30 until 8 or 9 p.m., then I’d go home and hadn’t seen my family all day and my daughter goes to bed at 9 p.m., so I would not even see her and that was hard/stressful”. Another participant commented that s/he had limited time to socialize with the other students, simply because s/he felt needed to be at home with her/his family, “ I go to school and then at the end of the day, I run out of here and go home. I don’t sit in the lounge and socialize with other students, I just come here to do whatever I have to do and then just run back home to my family. So we did not really get that close with the other students especially those that are single as they do not have the responsibilities as me”.

Most participants (78.9%) also expressed the demands of the program in terms of program clinical requirements, which in turn, were dependent significantly upon patient availability and accessibility. All dental students were given access to patients who require dental treatment, however, not all patients were willing to go ahead with dental treatment. Many of the participants (73.7%) expressed being frustrated and discouraged with their patient's ability to attend and keep or maintain appointments with them. Two participants (10%) indicated that communicating with patients and staff was a concern. One participant stated "the communication skills I have for me are ok, my most biggest barrier is the language problem". Another participant identified that s/he did not understand the language and the "oral part" of the curriculum. S/he said that "sometimes, I just didn't understand, fully understand, that's the problem. Yeah, especially I think for the English part, not everybody needs this kind of help but there is really the need if you can get some support of training for the oral part". Another participant described her/his difficulties with the language, "the most barrier for me is the language problem". The majority of the study participants (89.5%) indicated that they had no difficulties with communicating with their patients or difficulties with the English language. However, they commented that it was difficult to obtain the "right patients" who met their clinical program requirements. One participant stated that "patient access has always been a problem and it is stressful". Thus, contributing to the overall demands and stress of the program.

The regular four-year dental degree program has been historically known for its intense workload, clinically and didactically in addition to the laboratory work (Stockton, 2010). All participants (100%) reached consensus that the amount of after-

clinic laboratory work was indeed significant or excessive. Combined with the IDDP didactic lectures, tests and exams, time for lab work and studying was limited. All students accepted into the IDDP have completed the program requirements and exams followed by the National Dental Examining Board of Canada Written and OSCE. Time management skills and the ability to have supportive environments facilitated the above.

#### *4.4.3 Emotional Stress of the Program*

Almost all participants (94.7%) acknowledged that there was some degree of emotional stress associated with the program. This stress was identified with personal struggles associated with becoming a student again (52.6%) or within the realm of re-integration into a dental program (47.4%). One participant commented, “the thing that was the most stressful to me was the fact that I wasn’t aware of how the system works here at the University of Manitoba”. Moreover, another participant discussed the stress of becoming a student after four years of being in private practice. S/He stated, “coming into school, when you have your mind set, there are rules, deadlines, and it is going to be hard work. So, as long as you are prepared mentally, you can do it”. Re-learning a new system of how dentistry is taught and evaluated was an important concern for participants. Becoming a student after being a student in one’s previous dental school and then re-entering a program was a common stressor for participants (52.6%). Another participant stated “ I do not know how the system works here”. However, upon re-adapting to student life and “learning the system”, the participant was generally happy with the overall program and “if I were to chose again, I would definitely apply here”.

Stress associated with the financial costs of the program tuition was a recurring theme within the participant interviews (89.5%). Students accepted into the IDDP have a

significantly higher tuition fees in comparison to regular-stream dental students (University of Manitoba Faculty of Dentistry, 2007). Most participants (89.5%) expressed that the costs of the program in comparison to the regular-student tuition were too high. One participant stated that despite becoming a Canadian Citizen and paying Canadian taxes, s/he was still considered a “foreigner” because s/he was not trained as a dentist in a Canadian dental faculty. Participants commented that the overall costs of the programs were much less when compared to other degree completion or qualifying programs in Canada or the United States. This was considered an extra incentive to accept a position with the University of Manitoba IDDP due to the decreased fees in comparison to other Canadian programs.

Five participants (26.3%) expressed a significant amount of emotional stress that was associated with obtaining loans for the financial costs of the programs. In addition to receiving the provincial and federal student loans, private bank loans or lines of credit were required to cover the remaining tuition and kit fees. Since the participants indicated that they had no relatives in Canada to co-sign a bank loan, they found it very stressful to obtain financial resources to pay for their tuition. One participant stated, “ it was stressful cause without a loan, I would not have been able to finish. I had no family here (in Canada) and there were issues regarding a co-signer”. In the end, this participant revealed that s/he had asked a family friend in Ontario to serve as a co-signer to her/his loan, as s/he simply had no family in Canada to act as a co-signer.

#### *4.4.4 Learning the Canadian System*

All of the participants were not born in Canada, and only moved to Canada after their dental training. There were two participants that immigrated to Canada and chose

to attend dental school in the Dominican Republic rather than a Canadian dental school. Therefore, the participants had limited exposure to North American dentistry techniques, materials, and terminology. An overall theme of the need to re-learn the Canadian system as it related to dentistry was significant. During the seven-week summer IDDP intersession, IDDP students were exposed didactically and clinically to each of the dental disciplines. Many participants (63.2%) felt that the content was “overwhelming” for the amount of pre-clinical and didactic information that was taught in the seven-week intersession period. Some disciplines such as Orthodontics were under-represented or under taught, and 31.6% of participants felt “inadequately trained” in this particular discipline. Participants (36.8%) expressed the need to work hard and prepare mentally in order to learn the system. “Coming into school, when you have your mind set, there are rules, deadlines, and it is going to be hard work so as long as you are prepared mentally”.

Some participants (31.6%) felt that learning how to adapt to the culture was the best method to learn the system. One participant commented on how s/he dealt with learning the system as it related to dentistry and cultural issues within the Faculty of Dentistry. “You get to know how to deal with management which is different from place to place with the culture. I learned of these which is new to me because of the country”. Another participant stated that in order to learn the system, one simply had to get used to the system. S/He stated “the system in school is a pretty complicated system and was very new to us. We struggled the first couple of months just getting used to the whole system, but then after that, it was ok. An in-depth orientation session to understand the system might have helped”.



#### 4.4.5 Overall Program Satisfaction

General comments about the overall IDDP were positive as indicated by many of the participants (78.9%). Strengths of the program itself were identified by 63.2% of participants. These strengths of the program were identified as the clinical component as well as the exposure to clinical techniques. One participant commented, “the strength of the program would be the clinical work which is sort of what students need to see how it is being done here in Canada. There is a lot of clinical exposure which is a strength and the lectures were good too”. Participants (57.9%) felt it was important to achieve Canadian competency and to be considered equal in terms of skills and competency when compared to the regular-stream students. For example, one participant stated “coming into a program, as a whole, it guarantees that everyone will work in Canada with this level of competency”. Another participant mentioned, “it is nice to know that coming to a different country, how it is working in a different country, to be on par with everyone else”. Participants (68.4%) acknowledged that their previous training was different to Canadian dentistry standards. “You are taught differently back home, you are taught different techniques”. Regardless, participants recognized the importance of learning “Canadian techniques”. Another participant commented that s/he felt equal with the regular-stream dental students. S/He stated “I like the fact that we had the program along with the regular students, it did not make you feel degraded. Made us feel like we are trained at the same level as the regular students”.

Most participants (84.2%) also felt that the IDDP adequately trained them for private practice and that they felt prepared to enter a Canadian private practice. In addition to feeling that competency was achieved, participants felt secure in their skills

for private practice. For example, one participant mentioned, “I felt safer knowing that I am allowed to make mistakes here because I am learning and it is a perfect time for that. If something were to happen in practice, you know what the right procedure is and that was the best thing I learned”. When participants were asked why they chose to apply to and accept a position with the IDDP at the University of Manitoba Faculty of Dentistry, only 26.3% of participants chose the program due to the fact that the IDDP offers a D.M.D. degree as opposed to a certificate. The degree of competitiveness for Qualifying or Degree Completion programs is significant that students will apply to a number of programs and accept the first program that offers them a position. “I had decided that wherever I was accepted first was where I would go because there is a lot of competition to get into such programs. I am glad that I chose here because I actually get a degree rather than a certificate. It makes it more worthwhile”.

Finally, there were a number of participants (26.3%) who identified negative experiences. These negative experiences were not uniform, but rather represented the extremes of the spectrum for some of the participants. Based on the answers within the transcribed interviews, these participants had negative responses across the board on a majority of the interview questions. The transcribed interviews appeared more of a “venting session” than a meaningful data collection session. Nevertheless, the information gained from these interviews was deemed valuable. The negative experiences identified included poor interactions with faculty members and support staff, redundancy of didactic material, excessive laboratory work, and demanding clinical and didactic requirements.

#### *4.5 Mean Clinical Grades*

Given that the IDDP students entered the program as third year dental students, comparisons of clinical grades were based on the students' grades in third and fourth year courses in the Faculty of Dentistry program. Most of these courses have a clinical focus and hence were primarily based on student clinical work in the patient clinic. The clinical grades follow the University of Manitoba grading scale and can range from a 0 - 4.5 mark. The mean clinical grade for the regular-stream dental students was  $3.38 \pm 0.36$  with a range of 2.21 - 4.18. The mean clinical grade for the IDDP students was  $3.49 \pm 0.36$  with a range of 2.71 - 4.18 (Table 12). There was a -0.1047 difference in mean marks between the regular-stream and IDDP dental students. Two sample t-tests indicated that there were no significant differences observed between the two groups at 95% confidence levels ( $p < 0.05$ ).

#### *4.6 Mean Didactic Grades*

The didactic grades were defined as third and fourth year courses in the Faculty of Dentistry program that were based on assessments or testing of didactic (i.e., classroom) course material only. The courses formulated their final grades solely on midterm and final written examinations. The didactic grades follow the University of Manitoba grading scale and can range from a 0 - 4.5 mark. The mean didactic grade for the Regular-stream dental students was  $3.41 \pm 0.43$  with a range of 2.11- 4.28. The mean didactic grade for the IDDP students was  $3.49 \pm 0.44$  with a range of 2.33 - 4.39 (Table 13). There was a -0.0834 difference in mean marks between the regular-stream

and IDDP dental students. Two sample t-tests indicated that there were no significant differences observed between the two groups at 95% confidence levels ( $p < 0.05$ ).

#### *4.7 Mean Final Grade Point Averages.*

The Final GPA was calculated utilizing all twenty-five courses that all students, Regular-stream and IDDP, must take in the third and fourth year of studies in the Faculty of Dentistry program. The clinical grades follow the University of Manitoba grading scale and can range from a 0 - 4.5 mark. The mean GPA for the regular-stream dental students was  $3.35 \pm 0.39$  with a range of 2.34 - 4.27. The mean GPA for the IDDP students was  $3.49 \pm 0.36$  with a range of 2.71 - 4.18 (Table 14). There was a -0.1047 difference in mean marks between the regular-stream and IDDP dental students. Two sample t-tests indicated that there were no significant differences observed between the two groups at 95% confidence levels ( $p < 0.05$ ).

#### *4.8 Mean National Dental Examining Board Written Scores*

The NDEB Written Examination scores were obtained for 215 regular-stream dental students and 31 IDDP students that were completed during 2003 and 2010. The examination consists of 300 multiple choice questions and scores can range from 0 - 100 percent. The mean NDEB written score for the regular-stream dental students was  $75.24\% \pm 6.92\%$  with a range of 65.0 - 93.0%. The mean NDEB written score for the IDDP students was  $81.61\% \pm 4.73\%$  with a range of 70.0 - 92.0% (Table 15). There was a -6.19% difference in mean marks between the regular-stream and IDDP dental

students. Two sample t-tests indicated that the differences observed were significant between the two groups at 95% confidence levels ( $p>0.05$ ).

#### *4.9 National Dental Examining Board OSCE scores*

The NDEB Objective Structured Clinical Examination scores were obtained for 215 regular-stream dental students and 31 IDDP students that were completed during 2003-2010. The examination consists of 70 stations with extended-match answers for clinical photos, radiographs, and dental casts. Scores can range from 0 - 100 percent. The mean NDEB OSCE score for the regular-stream dental students was  $80.17\% \pm 7.17\%$  with a range of 58.0 - 96.0%. The mean score for the IDDP students was  $82.48\% \pm 6.23\%$  with a range of 73.0 – 97.0% (Table 16). There was a -2.32% difference in mean marks between the regular-stream and IDDP dental students. Two sample t-tests indicated that there were no significant differences observed between the two groups at 95% confidence levels ( $p<0.05$ ).

## CHAPTER 5: DISCUSSION

### 5.0 Study Utility

This study provides a number of valuable findings, raises awareness of the current IDDP at the University of Manitoba, and how this information can be utilized to change and continue to improve the overall program for future FTDs entering the program. First, this study pioneers the development of an assessment instrument that obtains the qualitative and demographic data from IDDP participants. As this was the first study of its kind in the literature, the results proved to be important in identifying the student experiences associated with the program. The issues identified in this study related to relocation to the city in which the program resides, demands and stresses associated with the program, the re-learning and re-adapting to the Canadian dental and social system, and the overall satisfaction and recommendations of the program. Second, the strengths and weaknesses identified, associated with the current program. Third, the open-ended responses elicit recurring comments that will guide the strategic planning for program recommendations.

This study is the first of its kind in the literature. One other study in the literature addresses the newly developed PASS (Berthold & Lopez, 1994; Lopez & Berthold, 2003) and another study focused on the analysis of admission criteria and cultural norms on success in an international dental studies program (Itaya et al., 2008). The former study utilized two graduating classes of the PASS program and evaluated the demographic characteristics and experiences with stress while in the PASS. The latter study by Itaya et al., (2008) analyzed cultural norms and admissions criteria (TOEFL, National Dental Board Exam Part I and number of times applying to the school) on the

students' academic success in the IDS program at University of the Pacific, Arthur A. Dugoni School of Dentistry. Therefore, the two only published studies referring to the re-education of FTDs are limited to the relationships between demographics, stress, cultural norms and administrations criteria. Furthermore, there are no published studies analyzing performance in dental school or national examinations of FTDs in comparison to regular-stream dental students. This is a unique feature of this thesis study project and the quantitative results are intriguing.

### 5.1 Study Limitations

An obvious limitation of Part I of the study is the low number of participants. Despite five years of IDDP classes, not all of them participated in the exit study interview. One can hypothesize that the overall numbers were low due to the fact that the exit interviews occurred annually in the month of April, a time in the academic career in which all graduating students were busy completing their clinical requirements. Furthermore, the time commitment for the exit interview (e.g., 45-60 minutes) may have been a deterring factor for potential participants. Low participation rate could also be attributed to apathy or indifference towards the program. At the end of the two-year program, IDDP students are anxious to complete the program and enter profitable careers to begin paying their accumulated debts. Also important to consider is that the size of the IDDP graduating classes were very small and many students may have felt uncomfortable being asked information that might in any way, identify them. Finally, given the extreme responses, both positive and negative towards the program, it is possible that those who were most affectively motivated may have completed the interview as a desire to express their feelings. For example, those who were negatively

impacted (26.3%), may have used this opportunity to vent their frustrations, and those who were positively impacted (73.7%), may have used this opportunity to express their gratitude. Therefore, the results may be slightly skewed reflecting a response bias from a certain group of IDDP students not necessarily reflecting the entire cohort. However, based on the findings, IDDP students provided a range of both positive and negative experiences of the program.

For Part II of the study, the quantitative analysis of the marks between the two groups, the population for the IDDP students is very low. Although adequate representation of scores and grades were obtained for the regular-stream student category ( $n = 246$ ) when analyzing the average written marks, average practical marks and average GPA over the third and fourth year of the dental program, the IDDP group had an overall smaller number ( $n = 37$ ). This can only be improved by repeating the statistical analysis of each of the outcome variables over a period of a few more years, simply as only six to seven IDDP students will be accepted into the program each year. With a greater sample size in the IDDP group, one would expect to observe more trends and perhaps, statistical significance in more of the variables.

## 5.2 Gender Representation

A positive note of the study is the equal representation of gender with 47.4% females and 52.6% males, reflecting the population of gender during the five years of the IDDP student population during the data collection. When compared to regular-stream dental classes from 2003-2009, similar demographics statistics between the two groups is evident. The proportion of males to females was 55.6% and 38.3% respectively, which differs from the IDDP averages of 47.4% and 52.6% (Lyon, 2010).



### 5.2.1 *Gender and Stress*

Female dental students have been found to report higher levels of stress in comparison to their male counterparts (Westerman, Grandy, Ocanto, & Erskine, 1993). Thus, this could affect the overall study results if there was a gender difference of more female participants than males.<sup>2</sup>

### 5.3 Interview Responses

The interviews were 45 to 60 minutes in length and participants disclosed information related to the questions to the interviewer. The interviewer was neutral and had no involvement in the evaluation of student performance and grades at any level for the IDDP participants' didactic and clinical grades. Thus, it can be fair to assume that the participants, for the most part, answered openly to the survey questions. Moreover, this was confirmed by the follow-up interview and comparison of the study themes with current IDDP students.

### 5.4 Findings Related to the Relocation of Participants: General

All of the participants (100%) accepted into the IDDP were not residing in the province of Manitoba. Thus, all participants relocated to Winnipeg, Manitoba either during the summer intersession or at the beginning of the academic year. From the dataset, 73.7% of the participants relocated to Winnipeg with either a spouse and/or a child(ren). The other participants were single and relocated to Winnipeg solely for the reason of attending the IDDP. Isolation from friends, family, and one's culture was a

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<sup>2</sup> Although not part of the study hypothesis, given the small sample size, to test for this gender difference, a one-way ANOVA (Female, Male) was conducted on perceived stress. Although no statistically significant findings were found ( $F(1,17) = .902$ ,  $MSA = 1.524$ ,  $p = .355$ ), females tended to have higher scores than males ( $M = 3.39$ ,  $STD = .993$ ; vs.  $M = 2.85$ ,  $STD = 1.415$ ). A larger sample size would more than likely have demonstrated a statistically significant finding here.

theme that emerged from the interviews. When considering the average age of the IDDP students is 32.9 years old, in comparison to the younger regular-stream students (average = 23.8 years) (Lyon, 2010), it is fair to assume that IDDP students are more likely to have spouses and/or children. From the exit interviews, it was determined that the majority of the participants (73.7%) relocated to Manitoba with a spouse and/or child(ren) and the remaining 26.3% of participants relocated as a single person. These statistics are supported by the University of Pennsylvania PASS program study in which the authors determined that the age of the international students was indeed older. Furthermore, the students in the PASS program were more likely to have families or spouses (Berthold & Lopez, 1994). Due to the IDDP students being older in comparison to the regular-stream students, one would anticipate that the participants would be emotionally more mature and they would be able to compare their previous dental training experiences to the IDDP.

All the IDDP students met each other at the summer intersession program and were introduced to the regular-stream students during a luncheon. The main objective of the luncheon was to allow the IDDP students to meet the regular-stream students and ask questions about the clinic, administration, staff, and general questions about the Faculty of Dentistry. As an informal session without faculty, it is held at the Faculty of Dentistry with a majority of the regular-stream dental students. One participant commented that the ease of re-locating to Winnipeg with her/his family was in part due to the fact that the city had similar amenities and services as his/her original city. S/he stated Winnipeg is a big city and “the good thing about Canada is that wherever you go,

you feel you are in the same place as you can go and find Walmart, Zellers, gas stations, etc.,... Are all the same from province to province”.

#### 5.5 Findings Related to the Relocation and Isolation: Couple or Family

Participants that moved with spouses and or a child(ren) experienced different isolation issues when compared to participants who re-located as single and by themselves. The data revealed that 73.7% of participants moved to the program city with their spouses and child(ren). Participants with families experienced isolation from one's culture rather than isolation from friends and family. One participant stated that at the end of the school day, s/he would go home and be with her/his family, speak her/his language and eat familiar food. This was especially important for the participants who moved with their spouse and families, as the families were far more isolated and less exposed to social networks in general.

#### 5.6 Findings Related to Relocation and Isolation: Single

Single participants who re-located to Winnipeg on their own dealt with their isolation by maintaining family contact daily via the telephone. Thus, regular telephone contacts with friends and family served as a coping mechanism for being away from each other. Another participant found comfort by meeting other health professionals at the Bannatyne university campus who attended Muslim prayers on Fridays. The Muslim prayer group allowed for the participant to meet people from the same cultural group as s/he was by attending community places of worship and community clubs.

#### 5.7 Interactions with Regular-stream Students

Participants commented on the fact that the regular-stream students who were in the same class as themselves were “friendly and nice”. Dentistry social evenings and

events were open to the entire student body and IDDP students were encouraged to attend. Class parties hosted by the Class Advisor for the third and fourth year dental students, were held one-to-two times per year and these parties were social gatherings for the students and their families. However, despite the social events and opportunities to include the IDDP students with the regular-stream students, some participants still felt isolated and treated differently from the other students. They described themselves as “outsiders” or “different” from the rest of the class members. These perceptions of oneself may have contributed or exacerbated the isolation theme from family, friends and culture.

#### 5.8 Demands of the Program: General

The demands of the program, which could be further divided into personal and professional, proved to be a significant theme that emerged in the participant interviews.

##### *5.8.1 Demands of the Program: Personal*

Personal demands encompassed finding a balance between home life and school, which was further complicated when participants had a spouse and/or a child(ren) at home. Professional demands of the IDDP included patient availability and accessibility, having enough time for completing all laboratory work, as well as finding enough time to study and complete the didactic components of the courses.

Personal demands of the program involved finding time for family and individual time for oneself. Participants who were married or had children found the program demands stressful in terms of finding enough time in a day to spend with their family. Thus, they found it difficult to find an ideal balance between home life and school demands. Single participants did not feel the pressures of maintaining a home life

as much simply as they were living alone. They identified the personal demands of the program in terms of lack of leisure time or time to “relax”. These findings are supported by a study on Canadian dental students’ perceptions of stress that found that dental students identified that the second highest level of stress was associated with lack of relaxation time (Muirhead & Locker, 2007). Another study by Al-Omari (2005) identified that dentistry students attributed high levels of stress associated with an inadequate time for relaxation.

#### *5.8.2 Demands of the Program: Professional*

One of the professional demands of the program included patient availability and accessibility to patients for the IDDP students. Finding the “right patients” and the right procedures proved to be stressful for 73.7% of the participants. Although the participants recognized that the patient availability and accessibility problem was not unique to the IDDP students, they accepted that it was indeed more of a global problem. Nevertheless, not having patients to complete the curricular and clinical requirements was frustrating. Compounding this problem is the responsibility of the student to contact and schedule appointments for patients. One participant stated that s/he had never had done any scheduling of appointments and felt it was not her/his job, but the clinical administration’s job. The theme of patient availability and not showing up for their appointments is a common stressor for dental students and it has been well documented in the literature. A study by Muirhead and Locker (2007) found dental students rated the stressor patients being late or not showing up for their dental appointments as one of the top ten dental environmental stressors.

IDDP students undergo a rigorous and highly competitive admission process, combined with the potential for relocation. All participants had applied to more than one school besides the University of Manitoba to increase their overall chances for admission into a QP or degree completion program in Canada. Even once accepted into the program, the physical and personal demand and sacrifices made by the student are surmountable.

Another professional demand of the program was finding adequate time for completing all laboratory work, as well as finding enough time to study and to complete the didactic components of the courses. All participants (100%) described the program laboratory work as “excessive” or “too much”. The heavy laboratory requirement with the program resulted in little time to study for tests, examinations, and to complete written assignments. Lack of time to do assigned coursework and amount of coursework were two variables that were associated with high levels of stress in the Muirhead and Locker (2007) study. In their study, the variables rated five for the former and seven for the latter out of thirty-one stressor variables measured in the study (Muirhead & Locker, 2007). Thus, it is not presumptive to assume that the inadequate time for studying and completing laboratory requirements in the IDDP is not a new phenomenon to dental students. Moreover, it is a common stressor associated with dental studies and methods of coping with the above is the best method to try and reduce anxiety and stress (Stewart et al., 2006).

### *5.8.3 Demands of the Program: Stress with Overall Program*

Another theme that emerged from analyzing the participant interviews was the stress associated with the overall program. Participants identified two distinct areas of

stress, which coincided with entering the IDDP. First, stress was associated with becoming a student again and trying to adjust to a new system for 52.6% of participants and second, stress as a result of the financial burden of entering the program was reported by 47.4% of participants. Student stress has been documented to occur in dental programs in the areas of academic and clinical work, interpersonal relations and living environment (Muirhead & Locker, 2007). However, interestingly is the fact that previous studies have found that female dental students report higher levels of stress than male dental students (Westerman et al., 1993). In the present study, 47.4% of the participants were female. However, a majority of participants expressed concerns of stress and the stress associated with dental school within their exit interviews.<sup>3</sup>

#### 5.9 Stress Associated with Re-entry as a Student

Almost half (47.4%) of the participants expressed that there was a significant amount of stress with becoming a student again. The notions of re-entering a program or learning the system were areas of concern and associated with stress for participants. As this was the first study to evaluate qualitatively the IDDP itself, there is no research or previous literature to support the former statement. Participants commented that they were “already dentists” and needed to complete the IDDP in order to obtain licensure in Canada, as their previous dental credentials were not recognized by the NDEB. There was a range of two to 12 years between graduation from their home institution to re-entering an IDDP. Moreover, the number of years spent in private practice prior to acceptance into the program ranged from zero to fifteen years. Thus, depending on the individual, if one was re-entering soon after, for example, within two years of

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<sup>3</sup> The reader may be reminded of the earlier footnote, where females did demonstrate higher perceived stress scores albeit not statistically significant.

graduating from her/his home institution, then the transition into the IDDP could hypothetically be less stressful than an individual who had practiced for a number of years prior to being accepted into the IDDP<sup>4</sup>.

#### 5.10 Stress with Year of Program

Previous research with regular-stream dental students has attributed stress levels to be consistent with the year of the program. Studies have found higher levels of stress in third year dentistry students than any other year in the dental education period. Muirhead and Locker (2007) found that third year dental students had the highest levels of stress scores when compared to all other dental student years. There is anecdotal evidence that the third year of dental training is a critical period in dental school training (Stewart et al., 2006). With the onset of patient care in addition to maintaining dental studies, it has been predicted that students in third year have higher stress levels and require additional academic and emotional support during this time (Muirhead & Locker, 2007). Therefore, one can attribute stress as being associated directly with the fact that the IDDP students are entering the DMD program in the third year and their first exposure to clinical dental work in a Canadian dental school. In addition, the stress can contribute to the already overwhelming number of other variables that the IDDP students are exposed such as their re-location to the program city and re-adapting to life as a student in a new city.

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<sup>4</sup> Again, although not part of the initial hypothesis, a correlation was conducted on years of private practice and perceived stress scores. A Pearson's correlation (two-tail) did not demonstrate any significant relationship between the two variables. However, the present study was limited to a small sample size which may not provide a statistically significant mass to see this correlation.



### 5.11 Stress as a Result of Finances

Most of the participants (89.5%) also presented financial stress as a significant concern. First and foremost, the costs of the IDDP are much higher than the regular-stream program. When compared to the regular DMD student third year fees (\$22,542.56 CDN), the IDDP fee for one year (\$52,540 CDN) is \$29,997.44 more. Although provincial and federal student loan assistance is available for all students, these loans can only cover a portion of the overall fees (Faculty of Dentistry, 2007; Lyon, 2010). Thus, IDDP students must find additional financial resources for the remainder of their fees either through a personal bank loan or from family members. A number of the participants expressed frustration over the fact that there was a significant difference in fees between the IDDP fees and the regular-stream dental program. One participant stated, “I pay taxes, ... why should it be more expensive for me to go?” Another stated, “we pay much more in tuition but I don’t know why. We are not funded by the government. Not everyone (IDDP students) have just moved to Canada – some have been here for many years and working here and paying taxes so it doesn’t really make sense”.

Regardless if the participants agreed with the differential in fees, the fees must be paid by a set date set by the University of Manitoba in term one and two. A majority of the participants obtained personal bank loans over and above what provincial and federal student assistance, to cover the remaining fees. One participant experienced significant stress in obtaining a personal bank loan or line of credit, simply because s/he had no relatives to co-sign for the loan. S/he stated, “it was stressful cause without a loan, I would not have been able to finish. I had no family here and there were issues

regarding a co-signer”. Financial stress is not a foreign concept in the dental literature. Muirhead and Locker (2007) found that financial concerns rated number eleven out of thirty-one dental environment scale stressors for Canadian dental students. Al-Omari’s study (2005) similarly identified financial responsibilities and amount of debt to be a stressor for dental students. Moreover, the amount of stress increased as the debt accumulated year after year.

#### 5.12 Canadian Dental System and Cultural Issues

Almost all of the participants (94.7%) expressed during the interview that there were some degree of anxiety, doubt and fear related to learning the Canadian system in terms of dentistry and cultural issues. The participants explained that they did not “know the system” and “how it worked”. Furthermore, during the seven-week intersession program in the summer, students were exposed to didactic, pre-clinical and clinical skills. The intersession was “helpful” and the students “learned a lot”. However, 31.6% of the participants stated that there was exposure to new techniques, methods, and for some, disciplines that had never been taught to them before. Two participants (10.5%) had never been exposed to the discipline of Orthodontics and they found it “extremely difficult” to learn orthodontics in a seven-week intersession.

One potential solution to helping FTDs reduce their anxiety, doubt and fear related to learning the system in terms of dentistry and cultural issues is by establishing a faculty-international student relationship for the new international dental student (Berthold & Lopez, 1994). First and foremost, the faculty member is seen as a parental figure that takes a more directive approach in the international dental students education. Secondly, the faculty member acts as an authority figure who helps guide the new

international student through the “maze of adapting to a new system” (p. 853) (Berthold & Lopez, 1994).

All dental students are responsible for contacting their patients to set up dental appointments. Most of the participants (84.2%) had worked in private practice before immigrating to Canada. They expressed frustration with regards to having to perform a receptionist’s job responsibility. Another participant stated, “I really don’t think it’s up to the dental assistants to tell me what to do, but rather to be there to help me”. Another common feeling that emerged from the interviews and 57.9% of participants expressed was the frustration of working with the dental assistants and them “telling you what to do, as opposed to me telling them what to do...I found this stressful and frustrating”. Thus, cultural factors may have played a role in contributing to the anxiety, stress, and frustration experienced by some of the IDDP students. FTDs have been characterized as a “dramatically different student from the regular student (p.853) (Berthold & Lopez, 1994). Berthold and Lopez (1994) have found that misunderstandings among students, faculty, and staff about the international students’ cultural and educational backgrounds have led to feelings of frustration and increased stress by the international dental students.

Some participants were resentful towards faculty and students as they felt they were treated as “outsiders” or as “different”. One participant described his/her experiences of integration as “feeling as a kind of an alien”. These feelings have been supported by other studies in which international students’ cultural and educational backgrounds have led to real and perceived differential treatment of the students (Berthold & Lopez, 1994). Almost half of the participants (47.4%) expressed that they

were integrated into the class and profession as well as anybody else in the program. “I like the fact that we had the IDDP along with the regular students, did not make you feel degraded. Made us feel like regular dentists here”. Assimilation with the culture and with the regular dental students may serve as an important mechanism for FTD students to have a positive experience with the program in general. It has been hypothesized that the cultural influences can have a significant bearing on a FTDs’ abilities to cope in an U.S. dental school environment (Itaya et al., 2008). Studies have shown that the academic performance of international students is affected by several factors such as psychological adjustment, assimilation into a new environment, and socio-cultural adjustment (Searle, 1990; Westwood, 1990). Furthermore, one can hypothesize that the IDDP would experience higher levels of stress related to learning the Canadian system in terms of dentistry and cultural related issues when compared to the regular-stream dental students. As a high percentage of the regular-stream dental students are from the province of Manitoba, thus they are able to maintain some of their pre-existing social support networks and relationships. Furthermore, they are able to balance their academic and clinical demands of the dental program with pre-existing outside interests (Stewart et al., 2006). For the IDDP students, they are faced with a number of variables and unknowns that make it difficult to be immune to the impact of the stressors of the program. As one participant stated, “it’s not that we are aliens, we just don’t know”. Based on the context of the questions, the participant exclaimed that the regular-stream dental student has already been in the faculty for two years and knows the ins and outs of the program and faculty. “A regular 3<sup>rd</sup> year student had been here for two years, seen 3<sup>rd</sup> and 4<sup>th</sup> year and GP clinic and everything, so they are kind of familiar. They have

friends and even family in senior years, so they know what's going on in the school. But the IDDP comes here with no idea". Thus, feeling even more isolated and not knowing how to work in a new environment adds to the IDDP students' stress.

The IDDP has a program director, administrative program coordinator, and a class advisor that works closely with the IDDP students. The program director and administrative program coordinator have worked with the IDDP student prior to being accepted into the program and subsequently monitor each student in the two years. The class advisor's role is to serve as an advisor to the class and to the individual members of the class. The class advisor can help the student in areas from personal issues to academic matters (The University of Manitoba Faculty of Dentistry, 2009). During the interview, when asked how they were treated by faculty, the majority of participants (89.5%) mentioned specifically how the program director and program administrator were "very helpful", "kind", and "helped answer questions" regarding issues during the program. The class advisor was also acknowledged as a "good guy" who "really cared". Other programs, such as the Penn PASS program, have hired a previous PASS program graduate to oversee the students' entry into the clinical areas. Berthold and Lopez (1984) found that the "program assistant" was beneficial to the new students in their ability to adapt to the program. The main factor in introducing a program assistant is to assist the new PASS students and to help them adjust to the bureaucracy in the school which in turn, has reduced significantly the anxiety experienced by foreign students (Berthold & Lopez, 1994). The current program at the University of Manitoba support structure may in fact aid in the transitioning of the IDDP student into the program. However, perhaps additional follow-up with the students throughout the program years by any of these

individuals may facilitate additional support systems and easier transitioning for the IDDP students.

### 5.13 Program Satisfaction

An overall theme of program satisfaction was evident from 78.9% of participant interviews. One main sub-theme identified from the interviews was the ability to attain competency from a Canadian dental point of view. At the end of the program, 57.9% of participants commented that they were now “on par with everyone else” and “it guarantees that as everyone as a whole will work in Canada with this level of competency”. The fact that the participants were “able to see how it (dentistry) is done here in Canada” was a positive comment, as one of the main objectives of the Canadian and U.S. FTD programs is to incorporate an educational program which includes procedures and techniques taught and utilized by dentists (American Dental Association, 2006a). The NDEB of Canada dictates that a competent dental practitioner has obtained the education that is supported by foundation knowledge and skills in biomedical, behavioral and clinical dental science and by professional behaviour (National Dental Examining Board of Canada, 2008).

The fact that the University of Manitoba IDDP granted its graduates a degree, a Doctor of Dental Medicine (and not a certificate as is the case in other dental schools), was an important feature of the program for 26.3% of participants. One participant described obtaining a degree “makes it more worthwhile”. However, this could be directly related to the fact that a degree allows graduates to sit the National Dental Board Exams of American and the regional testing centres for U.S. licensure. The American Dental Association mandated in 2006 that certificates awarded by the

University of Western Ontario ITDP, Dalhousie University QP and the former University of Toronto IDP do not meet jurisdictional, educational, qualifications, and licensure requirements of the United States (American Dental Association, 2008), whereas all other Canadian programs yielding a degree met these requirements.

With regards to the preparedness for private practice, a majority of the participants (84.2%) expressed that the IDDP prepared them well for what to expect to see in private practice in Canada. The educational program for the IDDP and the regular-stream teaches towards the 46 competencies set out by the ACFD. And if students are successful in the clinical and didactic components of the program, graduates will be competent to practice in Canada (Association of Canadian Faculties of Dentistry, 2005; Boyd & Gerrow, 1996). Participants commented that the program “was a good program” and if they were to choose again, “I would definitely apply here”. One participant stated that the clinical strengths of the program allowed the student to learn how or what one must do for a dental procedure in Canada. S/he stated, “if something were to happen in private practice, you know what the right procedure is and that was the best thing I learned”.

#### *5.14 Quantitative Analysis of the Data – Part II*

Descriptive statistics, including the mean, standard deviation, standard error, and minimum and maximum values were calculated for the two groups for each of the outcome variables studied (i.e., clinical grades, didactic grades, final GPA, NDEB Written and OSCE scores). The independent variables, clinical grades, didactic grades, and GPA, were all expressed in terms of the University of Manitoba grading scale that

ranges from a 0 to a 4.5. A 0 score translates to a grade of an F, whereas a 4.5 score is an A+. The outcome variables, NDEB Written and OSCE scores, were expressed in terms of a percentage out of 100.

The analysis of the data as related to each of the outcome variables revealed very interesting trends between the two groups. The IDDP students in each of the outcome variables analyzed outperformed the regular-stream students when the means between the two groups were compared. More interesting is the fact that despite a low sample size in the IDDP group, the minimum score in each of the outcome variables was always higher than the regular-stream dental students. Additionally, the maximum score was higher than the regular-stream dental student in three of the five variables, as both the IDDP students and regular-stream dental students had the same highest maximum value in the variable Mean Practical work and there was only a difference of 1.0% for the maximum value in the variable, NDEB Written scores.

#### *5.14.1 Mean Clinical Grades*

The mean clinical grade was higher in the IDDP group ( $3.49 \pm 0.36$ ) when compared to the regular-stream students ( $3.38 \pm 0.36$ ). The overall range of scores in the regular-stream dental student category were 2.21 - 4.18 based on the University of Manitoba grading scale. The IDDP students' range of scores were 2.71 - 4.18 (see Table 12). Thus, overall the IDDP students outperformed the regular-stream students and there was a 0.5 difference between the lowest score when comparing the two groups. One might explain this result by the fact that the IDDP students had received prior dental training in their home countries and there was a range of years of clinical



experience after graduation within this group, from 0-15 years with the average private practice experience being 4.65 years. Furthermore, in order to gain acceptance into the IDDP at the University of Manitoba, the IDDP applicants had participated in an intense one-week skills assessment testing. A majority of the students who were invited to the onsite assessment testing had practiced both simple and complex clinical procedures on pre-clinical dentofoms in order to be prepared for the testing and to showcase their skills. However, the statistical analysis of this particular outcome variable did not prove to be statistically significant.

#### *5.14.2 Mean Didactic Grades*

The mean written grades were higher in the IDDP group when compared to the regular-stream students,  $3.49 \pm 0.44$  and  $3.41 \pm 0.43$  respectively. Similarly, there was a range of scores and the IDDP students had a higher minimum value (2.33) and a higher maximum value (4.39) when compared to the regular-stream students, 2.11 -4.28 (see Table 13). One could argue that the IDDP students have been exposed to the didactic curriculum in their home institutions. This could be an explanation to the results observed. However, contradictory to the previous statement, some IDDP students had indicated in the qualitative portion of the study that there were certain specialties that they had not been exposed to in their previous training. Unfortunately, the statistical analysis of this variable did not prove to be statistically significant.

#### *5.14.3 Mean Final GPA*

The mean final GPA, which represents the average value of the students' third and fourth year dental course grades, was calculated for the study. Only the third and fourth year grades were compared, as the IDDP students had not participated in the first or second year of the dental program. The IDDP integrates the IDDP students into the third year of the dental program. This calculation was based on the combined twenty-five courses within the third and fourth year of dental studies. The mean final GPA was higher in the IDDP student group ( $3.46 \pm 0.41$ ) versus the regular-stream dental student group ( $3.35 \pm 0.39$ ). Similarly, there was almost a 0.20 difference between the lowest scores between the two groups, with a 2.34 minimum score in the regular-stream dental student category and a 2.55 minimum score in the IDDP group. The maximum score was only 0.02 higher than the regular-stream students group (see Table 14). The analysis found that the differences observed within the two groups were not statistically significant, one might expect to observe statistical significance if the n was larger. Only  $n = 36$  were available in the IDDP student category whereas  $n = 246$  was available in the regular-stream dental student category.

#### *5.14.4 Mean NDEB Written Scores*

The mean NDEB Written scores for the IDDP group was  $81.61 \pm 4.73\%$  and  $75.42 \pm 6.92\%$  for the regular-stream dental student group. There was a higher minimum value achieved in the IDDP group (70.0%) when compared to the regular-stream dental student group (65.0%). The range of scores in the IDDP group were 70.0 – 92.0% whereas in the regular-stream dental student group, the range was 65.0 – 93.0%

(see Table 15). The analysis found that the differences observed within the two groups were statistically significant ( $p > 0.05$ ). This was a very interesting finding as one would expect that the IDDP student group would outperform the regular-stream dental students' based on their previous dentistry training and or, clinical experience. However, one could explain the fact that the study only found this one outcome variable statistically significant due to the IDDP student previous test experiences. The very first examination that all FTDs need to sit in Canada is the NDEB Eligibility Examination (Gerrow et al., 1998). The Eligibility Examination follows similar question testing format as the NDEB Written Examination and in most cases, questions that are utilized in the NDEB Written Examination may be utilized year to year on the Eligibility Examination (Gerrow, Boyd, & Scott, 2003). Therefore, this finding could be hypothetically be explained by the fact that the IDDP student group is familiar with the testing format and as a result, may have a slight advantage in comparison to the regular-stream students writing the examination for the very first time.

More interesting is the failure rate in the Written scores between the two groups. In the regular-stream dental graduates, there were fifteen scores below 65.0% which resulted in a failure of the examination. In the IDDP graduates group, there were no failures. The NDEB Written Examination typically has a two to three percent failure rate nationally (Gerrow et al., 1997). Out of 231 subjects in the regular-stream dental student group, there were 6.5% in failures. In the IDDP group, there was an overall smaller n of 31, and a 0% failure rate.

The study by Gerrow et al. (1998) determined that the passing rate of graduates of Canadian and U.S. schools was 93-100%, whereas, graduates of International

programs had a 47-68% passing rate. Gerrow et al. (1998) hypothesized that the differences observed in the passing rate between graduates of Canadian and U.S. schools and that of International programs was the language barrier. The ability to read and interpret a question in English and then answer correctly, may have contributed to the overall difference rather than a lack of content knowledge. Based on the quantitative results observed in the thesis study, the failure rate of 6.5% observed in the regular-stream dental graduate group fell within what the literature observed. Interestingly, there were no failures within the IDDP group. Although Gerrow et al. (1998) determined that the passing rate for graduates of International programs was 47-68%, this was prior to the onset of degree completion or advanced standing programs in Canada. Based on the passing rates observed by the IDDP students in the current study, the University of Manitoba Faculty of Dentistry IDDP is preparing the FTDs well in the program to be successful in the NDEB Written and OSCE examinations.

#### *5.14.5 Mean NDEB OSCE Scores*

The mean NDEB OSCE scores for the IDDP group was  $82.48 \pm 6.23\%$  and  $80.17 \pm 7.17\%$  for the regular-stream dental student group. There was a higher minimum value achieved in the IDDP group (73.0%) when compared to the regular-stream dental student group (58.0%). The range of scores in the IDDP group were 73.0 – 97.0% whereas in the regular-stream dental student group, the range was 58.0 – 96.0% (see Table 16). Although there was only a mean difference of 2.32% between the two groups, the analysis found that the differences observed within the two groups were statistically not significant.

The failure rate in the OSCE scores between the two groups demonstrated some differences. In the regular-stream dental graduates, there were two scores below 65.0% which resulted in a failure of the examination. In the IDDP graduates groups, there were no failures. The NDEB OSCE typically has a higher passing rate nationally (Gerrow et al., 1997). Out of 231 subjects in the regular -stream dental student group, there were a 0.9% of failures. In the IDDP group, there was an overall smaller n of 31, and a 0% failure rate.

## CHAPTER 6: CONCLUSIONS

The present study is the first to capture the issues and concerns surrounding the experiences of the students in the IDDP at the University of Manitoba. As a pilot study, the purpose and objectives of this study were: to describe the educational experiences, perceptions, and adaptations to the IDDP; to identify demographic factors; and to capture IDDP students' reflections on their attitudes and experiences while enrolled in the IDDP. The findings highlight five critical factors that IDDP students face, including isolation and physical relocation issues, personal and professional demands of the program, emotional stress associated with the program, re-learning a system (i.e., both cultural and professional), and overall program satisfaction. These findings are of importance in guiding the strategic planning for program refinements and in providing leadership in the future of IDDP research, especially in regards to social factors, program factors, and program leadership and team factors.

### 6.0 Social Factors

The following social factors directly contributed to more stressful circumstances for the IDDP participants: the necessity to move to the IDDP city; uprooting a family structure to re-locate to a new city; isolation from friends and social networks in the program city; limited time to relax and socialize due the clinical and didactic demands of the program; patient accessibility and difficulty in obtaining patients for procedures; decreased time for studying and to complete course assignments; personal struggles in learning a new system and becoming as student again; integrating with the regular-stream dental students; obtaining financial funds for the program; the learning of Canadian dental procedures; and the cultural issues as it related to the profession of

dentistry. Noteworthy is the fact that students with different ethnic backgrounds do not necessarily react similarly to stress nor do they have the same skill set to manage a new situation (Berthold & Lopez, 1994). However, the experiences, perceptions, and stresses related to the dental school curriculum and the learning environment described by the IDDP participants are not unique to this group. There have been numerous studies that demonstrate parallels in terms of stressors in regular dental degree students (Birks et al., 2009; Freeman et al., 1995; Muirhead & Locker, 2007; Stewart et al., 2006). What is unique to the present participants is that their experiences are more likely exacerbated by the adjunctive social factors that they face. Social factors such as re-locating, learning a new culture, establishing new friendships, relationships and a social network, language competency, and trying to keep a balanced home life if a spouse or child accompanied the participant, all play a significant role of the experience and IDDP student encounters.

#### 6.1 Program Factors

Although there were a number of challenges identified in the present study, a number of positive aspects of the program were also highlighted. For instance, participants commented very highly of the clinical strengths of the program and the lecture component. The exposure to different clinical techniques and materials was beneficial to the IDDP students and they felt that the Faculty overall, was a safe place to learn and practice.

The quantitative results of Part II of the study demonstrated that the IDDP students were competitive students who performed better than the regular-stream dental students in terms of practical grades, didactic grades, overall third and fourth year GPA,

NDEB OSCE, and Written scores. Although the mean scores in each of the outcome variables were higher than the regular-stream group, the only variable that was found to be statistically significant was observed in the NDEB Written scores. Nevertheless, a trend was observed and with additional data and a higher n in the IDDP group, this trend could prove to be statistically significant in the future. Therefore, based on the data obtained the IDDP at the University of Manitoba is adequately preparing its students well to be successful in the NDEB Written and OSCE examinations as there were no observed failures in either of the examinations observed in the IDDP group. Furthermore, based on the qualitative analysis of the data, the program is beneficial to re-training FTDs and exposing the students to procedures and techniques taught and utilized in North as well as clinical dental standards in North America.

## 6.2 Program Leadership and Team Factors

The participants viewed the program director and class advisors as important persons in the development of solid interpersonal relationships. The participants felt safe to confide in these individuals and described them as “good people”. The regular four-year dental students were also seen as “helpful” and “kind”. However, some participants perceived themselves as “outsiders” or as “foreigners” by their peers. Despite attempts by the faculty and student body to include the IDDP students, it is unfortunate that the IDDP students felt “different” when compared to the regular stream students. Other negative aspects associated with the IDDP included the perceived heavy time demands of laboratory components associated with the courses, the poor and negative perceptions of faculty, instructors and dental support staff, and the cultural differences between the IDDP students and the faculty, which in turn affected professional relationships between



the two parties. Now that these have been identified, program re-development and changes can be made to accommodate a better overall program. The findings will direct program refinements and provide leadership nationally. Furthermore, it will direct future cross-institutional studies of the qualifying or degree programs that are offered at other Canadian and U.S. universities.

## CHAPTER 7: FUTURE PROGRAM RECOMMENDATIONS

Based on the following study, several recommendations can be made in order to facilitate an overall more favorable learning environment for future IDDP students at the University of Manitoba. The recommendations are based on the results of the current study as well as the two previous studies of the PASS program at the University of Pennsylvania, School of Dentistry. These include the following four recommendations.

### 7.1 Recommendation 1: Resources for Relocation

As participants of the IDDP described initial and continual bouts of isolation, physically and emotionally from family and friends, the IDDP coordinators should create and/or identify support systems as well as provide accessible resources for IDDP students relocating to Winnipeg. This could include a resource guide that is culturally sensitive in providing links and resources that fit within and/or support the student's ethnic background. For instance, housing options defined in terms of ethnic neighbourhoods and cultural centres with contact information for future IDDP students, banks who are known to have successfully assisted IDDP students in the past and are associated with the Faculty of Dentistry who work with dental students for financial assistance, transportation options available in the city of Winnipeg, ethnic-centred cultural community centres and associated churches or places of worship, transportation licensing agencies near the faculty of dentistry, and healthcare information and options. These valuable findings above could be converted into a simple manual for distribution or website availability for each IDDP student prior to arriving in Winnipeg in order to familiarize the student and answer basic questions with regards to re-locating and re-establishing oneself in the city of Winnipeg.

## 7.2 Recommendation 2: Peer Mentor System

In addition to the resource manual/web-resource, new IDDP students should be paired with a senior IDDP student and a faculty member. This type of relationship would serve as a type of mentorship program for the first year of the program and as the IDDP student enters the second and final year, the mentorship could be transferred to the faculty. Consequentially, the more senior IDDP student would serve as the new mentor for the incoming or more junior IDDP student. The mentorship program will serve as a method of direct communication for the incoming IDDP student and the student body and the faculty. Thus, questions related to the program, clinical and didactic courses, patient management, social and cultural expectations, and emotional support could be formed. This mentorship would help the incoming IDDP student transition into the faculty environment.

## 7.3 Recommendation 3: Planned Social Networking Activities

During the initial seven-week Intersession held in the summer prior to the start of the program, more interaction and social gatherings should be established with the regular-stream dental students and faculty. This could include a meet-and-greet luncheon, faculty orientation, introduction to the previous IDDP class, and an invitation by the class advisor to meet one-on-one with each of the students. These types of social engagements will serve as a method to introduce the future IDDP students to the faculty as well as allowing the IDDP students to ask questions to their classmates and faculty. Potentially, this would provide an easier transition when they join the regular-stream students in the beginning of the academic year.

#### 7.4 Recommendation 4: Providing a Program Expectations Overview

To improve the overall quality of student life for foreign-trained dental students, addressing aspects of the dental program to the students during the initial orientation to the program would be of great benefit. Stewart et al. (2006) suggested that

“enhancing the orientation content to include specific discussion of how students’ academic identity, self-concept, and efficacy expectations may be challenged during their dental education could help to facilitate a more successful adjustment to dentistry by aligning their expectations more closely with the program demands. Along with this, targeted programming to help students at all levels to develop and maintain effective problem-focused coping skills “(pp.988).

Furthermore, the University of Pennsylvania PASS program has proved to be successful in the development of a ‘human guide’, and in this program, a faculty member advises the FTD students of him/her on his/her behaviour, demonstrates the correct behaviour, point out the errors, instructs, and deliberately supervise the cultural performance of each student (Berthold & Lopez, 1994).

Based on the transcripts, participants voiced concern about understanding the university and Faculty of Dentistry system. One participant commented that “an in-depth orientation session to understand the system might have helped”. This could be led by the Program Leader to introduce the program and provide didactic and clinical requirements to the students. Furthermore, this mini orientation session catered towards the new IDDP students could address the concerns of past IDDP students and how they specifically managed to learn the system.

As uncovered by the present study, these four recommendations focusing on resources for relocation, peer mentor system, planned social networking activities, and providing a program expectations overview will enhance the IDDP students' experience with the IDDP. It will require a team of dedicated IDDP administrators and staff to implement each of these recommendations. Moreover, annual feedback from IDDP students during the end of each year about continued program assessments will ensure the success of the IDDP for the future.

## CHAPTER 8: FUTURE RESEARCH

This initial study has provided insight into future areas of research involving the program. More importantly are the trends and findings observed in this study the same patterns exhibited by other foreign-trained dentist programs in Canada and/or the U.S.? Secondly, there is limited data on the experiences of qualifying or advanced standing degree program students and how they deal with stressors during their education. When FTDs relocate to Canada and/or the U.S., there are a number of different acculturation stressors that they encounter. Making the transition into a Canadian or U.S. dental community and practice requires more than just dental training. It will also require assisting these dentists to adapt to a different culture and in many cases, a somewhat different way to practice dentistry. At the present time the research literature is limited in documenting the extent to which these students make a successful transition into a new culture. Future research needs to focus on obtaining the following additional data including: the total number of graduates from Canadian and U.S. qualifying or advanced standing programs, the numbers of graduates who stay in Canada and the U.S., the duration of practice in Canada and the U.S. A joint national research study comparing NDEB Written and OSCE scores of graduates of the regular-stream dental program versus graduates of the Canadian qualifying or advanced standing programs would be extremely valuable. This would encompass a large database and a large n, thus either proving or disproving that FTDs entering a Canadian qualifying or advanced standing program may perform better than a Regular-stream dental graduates. Finally, it will be important to determine how well these graduates perceive the qualifying or advanced

standing programs in assisting in adapting and integrating into the professional community of dentistry.

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Table 1

*Information Highlighting the Process of the Masters of Education Thesis Project.*

Previous to Beginning Masters of Education Thesis Proposal	Published Manuscript	Thesis Intentions
<ol style="list-style-type: none"> <li>1. Creation of semi-structured interview questions.</li> <li>2. Application to HREB Bannatyne (March 2005).</li> <li>3. Ethics granted for semi-structured interview with probing questions.</li> <li>4. Interviews conducted &amp; taped by Dr.D.Schönwetter.</li> <li>5. Transcription of interview data.</li> <li>6. Data locked in Dr.D.Schönwetter's files.</li> </ol>	<ol style="list-style-type: none"> <li>1. Advanced placement, qualifying, and degree completion programs for internationally-trained dentists: an overview. <i>J Dent Educ</i>, 2009, 73(3), 399-415.</li> <li>2. The published work is a review article listing the various types of programs that exist in Canada and the U.S. for FTDs.</li> <li>3. The article describes licensure policies and requirements in Canada and the U.S.</li> </ol>	<ol style="list-style-type: none"> <li>1. Obtain Ethics approval from Education REB (Part I Study).</li> <li>2. Evaluate archived dataset (transcribed interviews n=19 2003-2008) for the following: <ol style="list-style-type: none"> <li>i) The educational experiences, perceptions, and adaptation of IDDP students.</li> <li>ii) Identifying demographic factors.</li> <li>iii) Attitudes and experiences.</li> </ol> </li> <li>3. Obtain Ethics approval from Education REB (Part II Study).</li> <li>4. Remove all identifying features from dataset and evaluate for the following: <ol style="list-style-type: none"> <li>i) The statistical differences, if any, between two groups, regular-stream dental graduate (RSDG) and IDDP graduate.</li> <li>ii) Analyze the outcome variables between the two groups (Clinical Grades, Didactic Grades, G.P.A, NDEB Written and OSCE scores) from 2003-2011.</li> </ol> </li> </ol>

Table 2

*Admission Information of Qualifying and Advanced Standing Degree Programs in Canada.*

	Dalhousie University	McGill University	University of Alberta	University of British Columbia	University of Manitoba	University of Toronto	University of Western Ontario
Type of Program	QP	ASP	APP	IDDCP	IDDP	QP/IDAPP	ITDP
Year of Inception	1998	2002	2000	2000	2003	1999	1997
Number of Applicant's Accepted Per Year	7-9	2-3	3-7	10-15	4-7	25-29	7- 12
Number of Successful Graduates of Program	59	8	22	72	21	163	85
Degree / Certificate Awarded	DDS	DMD	DDS	DMD	DMD	QPC/DDS	QPC

Table 3

*University of Manitoba International Dentist Degree Program Admission Statistics.*

	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009
Total Applicants	56	64	102	121	93	68	91
Meeting Requirements	32	59	95	113	91	63	42
Not Meeting Requirements	24	5	7	6	2	5	49
Invited to Onsite Assessment	21	16	20	20	21	16	24
Total Accepted Into Program	4	5	5	7	4	4	6

Table 4

*A Comparison of Total Fees Associated with QP and Advanced Standing Degree Programs in Canadian Dental Faculties.*

PROGRAM	Dalhousie University	McGill University	University of Alberta	University of British Columbia	University of Manitoba	University of Toronto	University of Western Ontario
Degree/Certificate Awarded	DDS	DMD	DDS	DDM	DMD	QPC (2007) DDS (2008)	QPC
Program Application Fee	\$70	\$80	\$250	\$400	\$100	\$230	\$1,450
Onsite Assessment Fee	No data	No Onsite Assessment	\$1,000	\$1,000	\$1,000	\$300	n/a
Intersession Fee	\$18,388 (Includes kit \$8,180)	\$34,968.06	\$4,800 + (\$3,000 kit deposit)	No data	\$5,100	n/a	No data
Year I Program Fee	\$31,152	\$38,916.32	\$69,998	\$71,928.15	\$52,540	\$54,105	\$54,111.73
Year II Program Fee	\$38,740	\$23,020.38	\$49,550	\$51,818	\$42,503	\$51,818	\$37,761.72
<b>Total Cost (CDN)</b>	<b>\$88,350</b>	<b>\$101,243</b>	<b>\$114,548</b>	<b>\$105,953</b>	<b>\$101,243</b>	<b>\$105,953</b>	<b>\$91,873</b>

Table 5.

*A Comparison of DMD/DDS Regular Program Fees at Canadian Dental Faculties.*

	Dalhousie University	McGill University	University of Alberta	University of British Columbia	University of Manitoba	University of Saskatchewan	University of Toronto	University of Western Ontario
Tuition 1 <sup>st</sup> yr	\$14,074	\$11,473.92	\$17,761.56	\$14,857	\$13,395	\$32,000	\$22,612	\$32,912.72
Tuition 2 <sup>nd</sup> yr	\$14,074	\$12,011.76	\$17,761.56	\$15,154.99	\$13,278	\$32,000	\$18,668	\$32,414.72
Tuition 3 <sup>rd</sup> yr	\$14,074	\$9,143.28	\$17,761.56	\$15,458.09	\$13,278	\$32,000	\$18,668	\$25,411.72
Tuition 4 <sup>th</sup> yr	\$14,074	\$6,095.52	\$15,305.16	\$15,767.25	\$13,278	\$32,000	\$18,668	\$21,316.72
Instruments 1 <sup>st</sup> yr	\$10,195	\$0	\$10,000		\$12,043	\$4,187	\$6,375	
Instruments 2 <sup>nd</sup> yr	\$8,895	\$20,000	\$5,317		\$11,312	\$5,664.00	\$5,650	
Instruments 3 <sup>rd</sup> yr	\$6,495	\$6,500	\$3,511		\$5,543	\$1,050	\$4,584	
Instruments 4 <sup>th</sup> yr	\$2,895	\$3,800	\$625		\$2,541	\$600	\$2,327	
Clinic Fee 1 <sup>st</sup> yr				\$24,241.32				
Clinic Fee 2 <sup>nd</sup> yr		\$17,000		\$24,726.15				
Clinic Fee 3 <sup>rd</sup> yr		\$7,000		\$25,330.67				
Clinic Fee 4 <sup>th</sup> yr		\$2,000		\$25,725.08				
Additional Student Fees 1 <sup>st</sup> yr	\$845	\$2,011.10	\$1,370	\$11,741.83	\$1,612.28	\$3,473	\$903.22	\$2,534
Additional Student Fees 2 <sup>nd</sup> yr	\$845	\$1,617.10	\$1,270	\$9,131.58	\$1,612.28	\$2,356	\$903.22	\$1,815
Additional Student Fees 3 <sup>rd</sup> yr	\$845	\$1,617.10	\$1,270	\$7,476.22	\$1,612.28	\$1,531	\$903.22	\$1,815
Additional Student Fees 4 <sup>th</sup> yr	\$845	\$1,369.70	\$1,170	\$8,800.64	\$1,612.28	\$1,145	\$903.22	\$4,865
<b>Total (CDN)</b>	<b>\$88,156.00</b>	<b>\$101,639.48</b>	<b>\$95,579.24</b>	<b>\$198,301.65</b>	<b>\$90,416.00</b>	<b>\$149,456.00</b>	<b>\$101,184.88</b>	<b>\$123,084.88</b>

Table 6

## A Comparison of Advanced Standing or International Dentist Programs in the U.S.

Program	Loma Linda University	New York University	Tufts University	University of California, San Francisco	University of Illinois, Chicago	University of Colorado	University of Florida	University of Minnesota	University of the Pacific	University of Pittsburgh	University of Texas, San Antonio
Length of Program (years)	2	3	2 yrs + 3 months	2	2	2	2	2	2	2	2
Application Fee (USD)	\$195	\$75	\$75	\$150	\$150	\$175	\$30	\$100	\$75	\$50	\$0
Tuition 1 <sup>st</sup> year (+ kit) USD	\$44,842	\$48,625	\$27,500	\$80,732	\$70,261	\$58,600	\$42,920	\$83,000	\$87,998	\$46,831	\$62,520
Tuition 2 <sup>nd</sup> year (+ kit) USD	\$43,720	\$48,625	\$52,601	\$57,240	\$68,827	\$53,000	\$42,920	\$66,000	\$73,140	\$41,275	\$60,320
Tuition 3 <sup>rd</sup> year (+ kit) USD	n/a	\$48,625	\$52,201	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Costs Application + Tuition (USD)	\$88,562	\$145,875	\$132,302	\$137,972	\$139,088	\$111,600	\$85,840	\$159,000	\$161,138	\$88,106	\$122,800
Total Costs in CDN Dollars	\$93,716	\$154,333	\$140,001	\$146,001	\$147,183	\$118,095	\$90,835	\$164,000	\$170,516	\$93,233	\$130,000
Number of Students Accept/year	Not listed	110	14-15	24	24	Not listed	12	10	Not listed	10	10
Type of Program	IDP	APP	DISP	PPID	IDDP	ISP	IEDP	PASS	IDS	ASP	ASP

Table 7

*Differences in Degree Program and QP Fees Versus Regular Four-year Degree Student Fees at Respective Canadian Universities.*

	Dalhousie University	McGill University	University of Alberta	University of British Columbia	University Of Manitoba	University of Toronto	University of Western Ontario
Degree Program/QP Cost	\$88,350	\$96,984.76	\$114,548	\$141,415.62	\$101,243	\$105,953	\$91,873.45
Four-year Dental Degree Cost	\$88,156	\$101,639.48	\$95,579.24	\$198,301.65	\$90,416	\$101,184.88	\$123,084.88
Net Differences between programs	+\$194	-\$4,654.72	+\$18,968.76	-\$56,886.03	-\$10,827	+\$4,768.12	-\$31,211.43

Table 8

*Identification of Themes from the Dataset of Nineteen IDDP Participants.*

<b>Theme</b>		<b>Sub Themes</b>	
1.	Isolation and physical relocation issues	i) ii)	Isolation from friends and family Isolation from one's culture
2.	Demands of the program	i) ii) iii) iv)	Personal demands – balancing home life and school Professional demands of the program – patient availability and accessibility Completing laboratory work Ability to study and complete the didactic components
3.	Stress associated with the program	i) ii)	Personal struggles with becoming a student again Financial stress associating with program tuition
4.	Learning the Canadian system	i) ii)	Dentistry related issues Cultural issues in Canada
5.	Overall Program Satisfaction	i) ii)	Achieving Canadian competency Obtaining a degree over a certificate



Table 9

*Participant Demographic Information as compared to Regular-stream Dental Students.*

<b>Participant Demographics</b>	<b>IDDP</b>	<b>RSDG</b>
Average Age	32.9 years	23.8 years
Percentage of Males in Program	52.6%	55.6%
Percentage of Females in Program	47.4%	44.4%
Average Number of Programs Applied to in Canada	3.4	n/a
Average Number of Programs Applied to in the U.S.	0.55	n/a
Average Number of Years in Private Practice	4.65 years	n/a
Range of Private Practice Years	0-15 years	n/a

Table 10

*Participant Marital Status in Relation to Gender.*

<b>Demographic Feature</b>	<b>Female N=10 (52.6%)</b>	<b>Male N=9 (47.4%)</b>
Relocated to Manitoba with a Spouse (47.4%)	4	5
Relocated to Manitoba with a Spouse & Child/ren (26.3%)	3	2
Relocated to Manitoba as a Single Person (26.3%)	3	2

Table 11

*Identification of Themes and Subthemes and the Percentage Breakdown.*

Theme and Subthemes	Number of Participants N=19
1. Isolation & Physical Relocation Issues	<b>N=16 (84.2%)</b>
a) Isolation from family	N=14 (73.7%)
b) Developed ties with cultural communities	N=9 (47.4%)
2. Personal & Professional Demands of the Program	<b>N= 19 (100%)</b>
a) Stressful & demanding environment	N=19 (100%)
b) Demanding clinical environment	N=15 (78.9%)
c) Frustrated with patient issues (attendance, financial means, access to patients)	N=14 (73.7%)
d) Communicating with staff & patients	N=2 (10.5%)
e) No concerns with communicating with staff & patients.	N=17 (89.5%)
f) Overwhelming amount of laboratory work	N=19 (100%)
3. Emotional Stress of the Program	<b>N=18 (94.7%)</b>
a) Stress associated with becoming a student again.	N=10 (52.6%)
b) Stress associated with Re-integrating into the program	N=9 (47.4%)
c) Stress associated with the financial program fees	N=17 (89.5%)
d) Stress associated with obtaining bank loans for the program fees	N=5 (26.3%)
4. Learning the Canadian System	<b>N=18 (94.7%)</b>
a) Overwhelming amount of information.	N=12 (63.2%)
b) Undertraining in certain disciplines	N=6 (31.6%)
c) Need to prepare mentally & work hard	N=7 (36.8%)
d) Adapting to the culture to learn the system	N=6 (31.6%)
e) Cultural issues related to working with support staff & dental assistants	N=11 (57.9%)
f) Integrated well with the regular-stream students	N=9 (47.4%)
g) Good relationships with program director, class advisor or program assistant.	N=17 (89.5%)
5. Overall Program Satisfaction	<b>N=15 (78.9%)</b>
a) Positive clinical environment & teaching of clinical techniques.	N=12 (63.2%)

b) Learning Canadian dental techniques & Canadian competency standards	N=11 (57.9%)
c) Previous dental training was different from Canadian re-training	N=13 (68.4%)
d) Program adequately trained students to enter private practice & sit NDEB Exams	N=16 (84.2%)
e) Program offers degree over diploma	N=5 (26.3%)

---

Table 12

*Descriptive Statistics of Clinical Grades for IDDP and Regular-stream Dental Graduates.*

GROUP	SAMPLE (N)	MEAN	STD DEV	STD ERR	MIN	MAX
RSDG	246	3.38	0.36	0.02	2.21	4.18
IDDP	37	3.49	0.36	0.06	2.71	4.18
DIFFERENCE		-0.11	0.36	0.06		

Table 13

*Descriptive Statistics of Didactic Grades for IDDP and Regular-stream Dental Graduates.*

GROUP	SAMPLE (N)	MEAN	STD DEV	STD ERR	MIN	MAX
RSDG	246	3.41	0.43	0.03	2.11	4.28
IDDP	37	3.49	0.44	0.07	2.33	4.39
DIFFERENCE		-0.08	0.43	0.07		

Table 14

*Descriptive Statistics of Average GPA for IDDP and Regular-stream Dental Graduates.*

GROUP	SAMPLE (N)	MEAN	STD DEV	STD ERR	MIN	MAX
RSDG	246	3.35	0.39	0.03	2.34	4.27
IDDP	37	3.46	0.41	0.07	2.55	4.29
DIFFERENCE		-0.10	0.29	0.07		

Table 15

*Descriptive Statistics of National Dental Examining Board of Canada Written Scores for IDDP and Regular-stream Dental Graduates.*

GROUP	SAMPLE (N)	MEAN	STD DEV	STD ERR	MIN	MAX
RSDG	215	75.42	6.92	0.47	55.00	93.00
IDDP	31	81.61	4.73	0.85	70.00	92.00
DIFFERENCE		-6.19	0.36	0.06		



Table 16

*Descriptive Statistics of National Dental Examining Board of Canada OSCE Scores for IDDP and Regular-stream Dental Graduates.*

GROUP	SAMPLE (N)	MEAN	STD DEV	STD ERR	MIN	MAX
RSDG	215	80.17	7.17	0.49	58.0	96.0
IDDP	31	82.48	6.23	1.12	73.0	97.0
DIFFERENCE		-2.32	7.06	1.36		

## Figure Captions

*Figure 1.* The National Dental Examining Board of Canada Certification process from 1994-1996.

*Figure 2.* The National Dental Examining Board of Canada Certification process 1996 – 1999.

*Figure 3.* The National Dental Examining Board of Canada Certification process after 2000.

*Figure 4.* Country of origin for students accepted into the IDDP at the University of Manitoba 2002 – 2009.

Figure 1

*The National Dental Examining Board of Canada Certification process from 1994-1996*

*(Gerrow et al., 1998).*

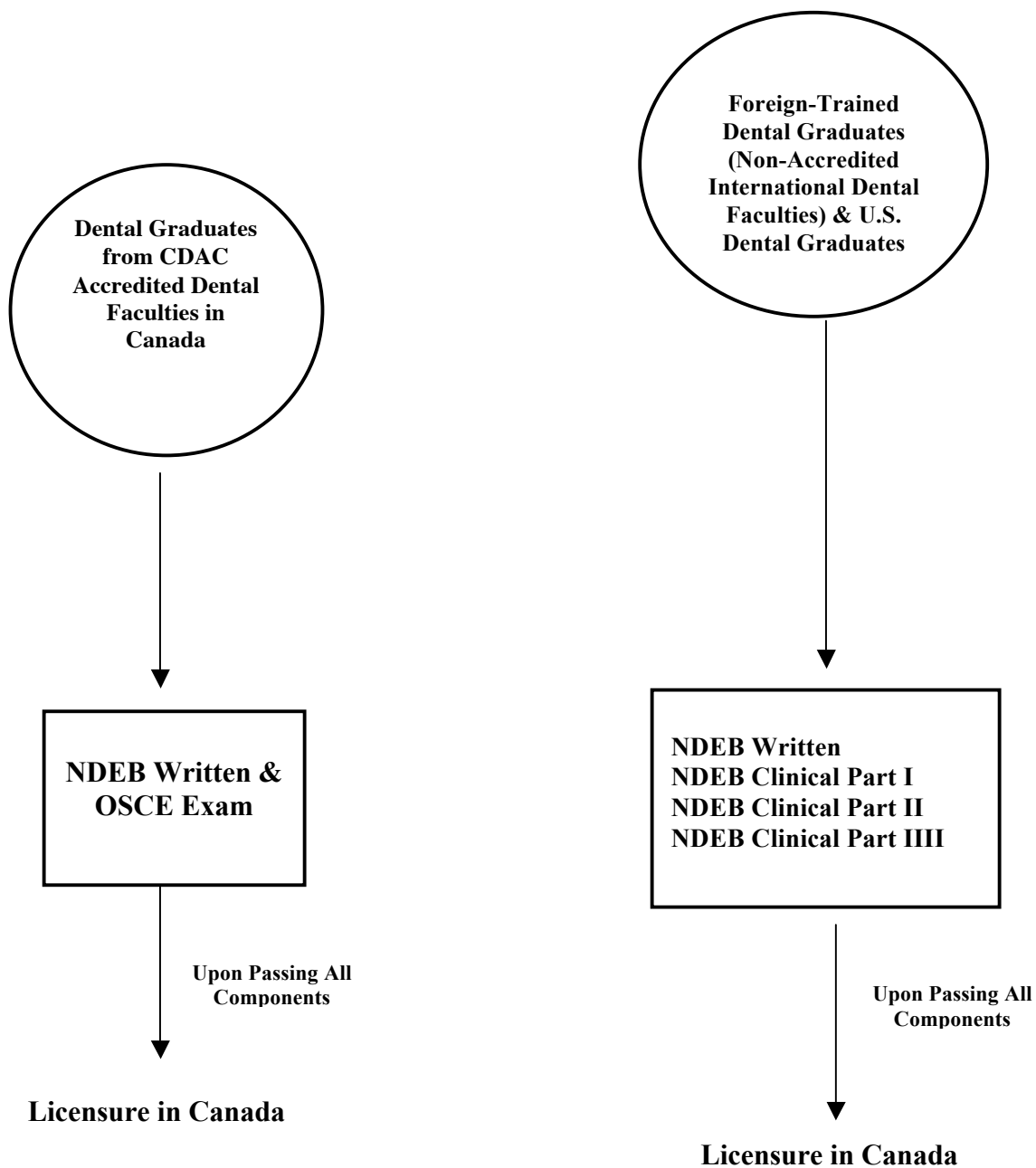


Figure 2

*The National Dental Examining Board of Canada Certification process 1996 – 1999*

*(Gerrow et al., 1998).*

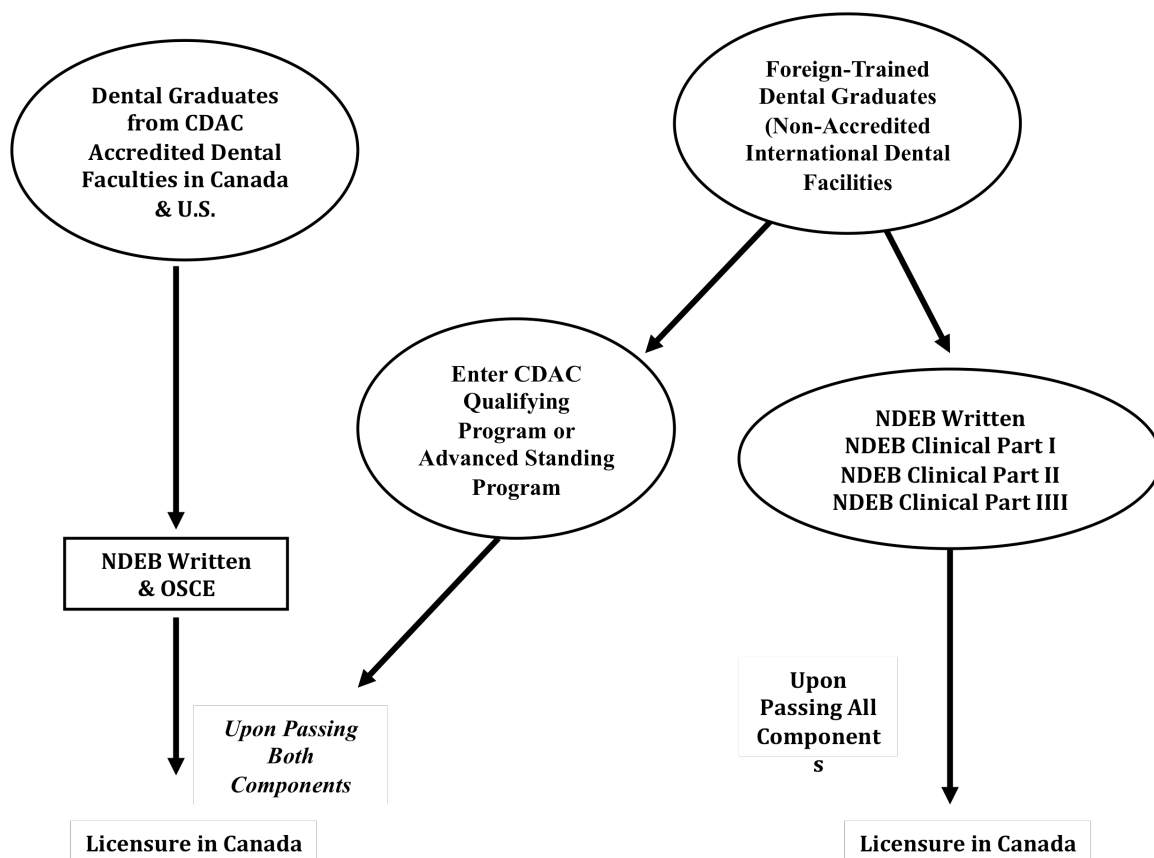


Figure 3

*The National Dental Examining Board of Canada Certification process after 2000*

*(Gerrow et al., 1998).*

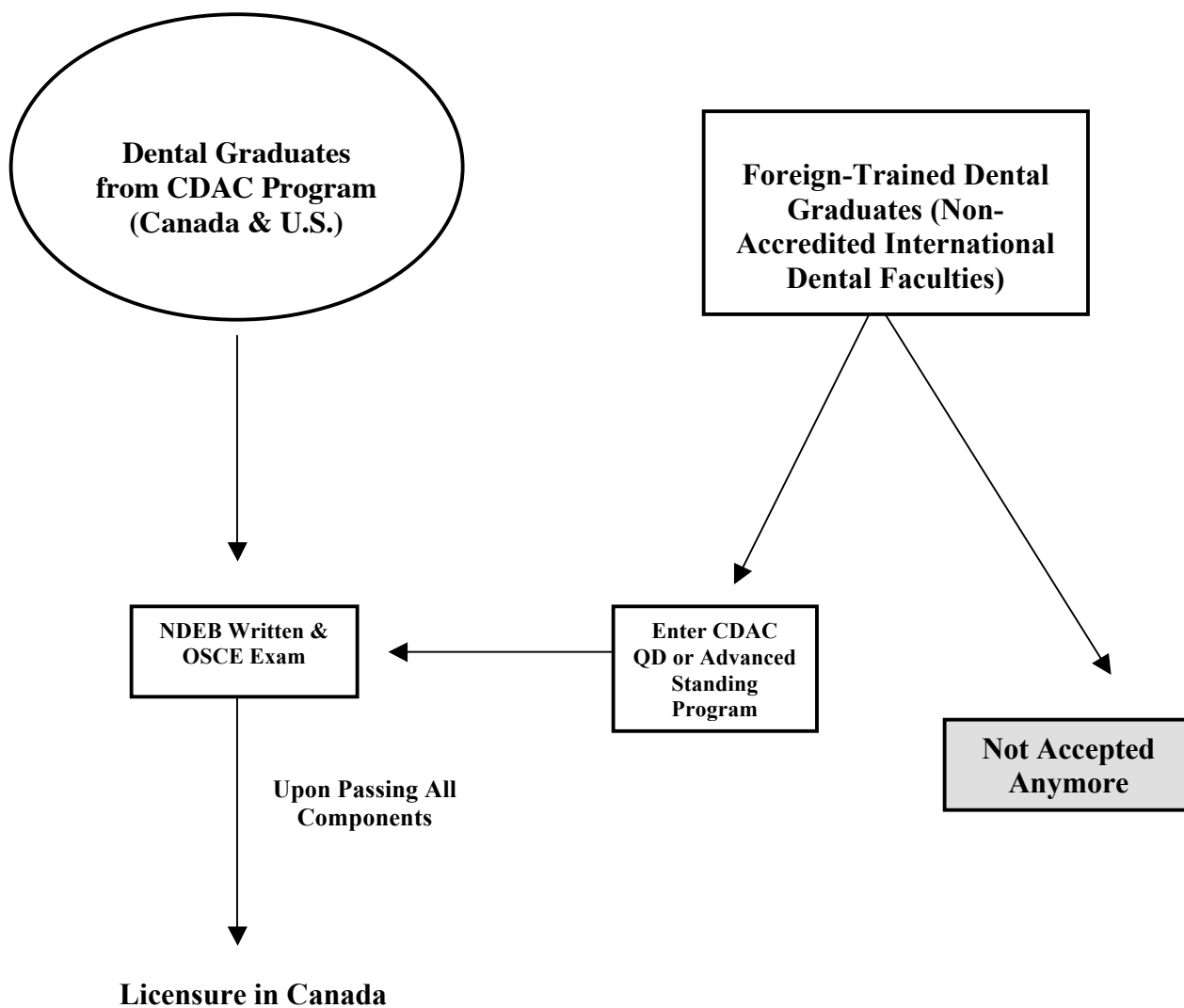
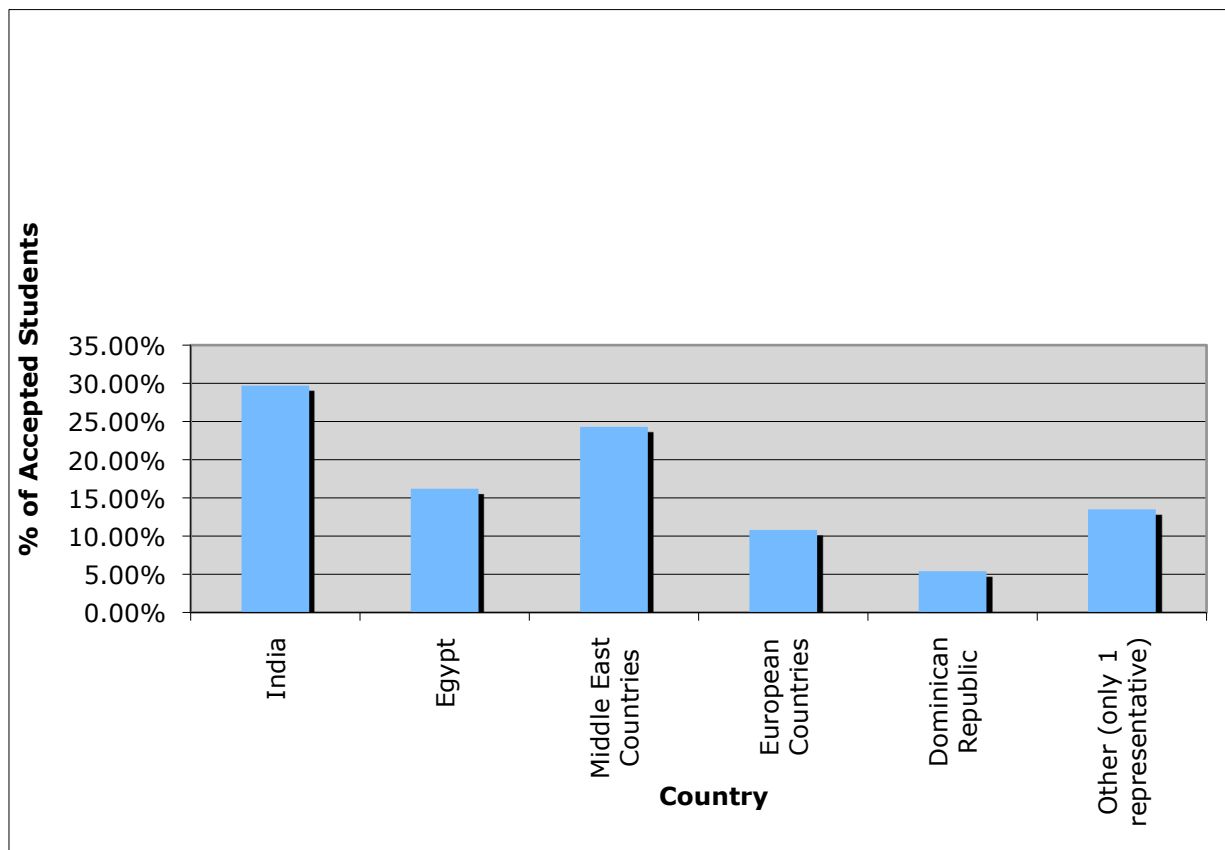


Figure 4

*Country of origin for students accepted into the IDDP at the University of Manitoba  
2002-2009.*



## TABLE OF APPENDICES

Appendix A: IDDP Pilot Questionnaire.

Appendix B: IDDP Project Ethics Application.

Appendix C: IDDP Ethics Approvals for Years 2005 – 2009.

Appendix D: Masters of Education Thesis Ethics Approval – Part I.

Appendix E: Masters of Education Thesis Ethics Approval – Part II.

Appendix F: Example of a Common Code and Associated Transcriptions.

## Appendix A: IDDP Pilot Questionnaire.

### *Dear Graduating IDDP Student*

This questionnaire is designed to assist in the further development of IDDP program and services for IDDP students. Your participation is very important to the success of this program at Faculty of Dentistry and you are encouraged to respond thoughtfully and candidly. Your ideas will help strategic planning for future IDDP programming, specifically geared for the IDDP student. Thus, we are interested in your thoughts, feelings and actions as well as your expectations regarding the program. The questionnaire is intended to be confidential. Your student number will be requested so that we may merge your interview information with your responses to the Graduating Dental Students Competency Assessment (CDSCA) questionnaire. Results will be summarized and reported for groups and not individuals. You may choose to withdraw from this research project at any time. Your participation is completely voluntary.

### **1. Demographics**

- a. Student Number: \_\_\_\_\_
- b. Gender: \_\_\_\_\_
- c. Date of Birth: \_\_\_\_\_
- d. Family Situation:
  - i. Single/Married
  - ii. Number of children
  - iii. Relocation to Winnipeg with family or by yourself (probe: stress of being away from family; having family here with you)
  - iv. Conflicting demands of family (i.e., spouse who is also educated/trained, would like to work, demands of children etc., probe).
- e. Social Network
  - i. Family
  - ii. Friends
  - iii. Community
- f. Where did you study dentistry? Country: \_\_\_\_\_ Dental School: \_\_\_\_\_
- g. How many years (probe actual years) of schooling to complete Dentistry degree?
- h. How many years (probe actual years) of dentistry training time?
- i. Other degrees with amount of time or training before dentistry;).
- j. How long were you in private practice? (years, months)
- k. How long did you not practice before starting the IDDP program? (years, months)
- l. How many Dental Degree programs/Qualifying programs did you apply to:
  - i. In Canada?
  - ii. In the U.S.A? (Dental Degree Programs/ PASS programs)
  - iii. Elsewhere?



- m. How many programs were you granted acceptance to:
  - i. In Canada?
  - ii. In the U.S.A?
  - iii. Elsewhere?
- n. What made you choose our Faculty program in comparison to others?
- o. How prepared did you feel as a dentist before starting the program?
  - i. Not at all ① ② ③ ④ ⑤ very much so
- p. How competent did you feel as a dentist before starting the program?
  - i. Not at all ① ② ③ ④ ⑤ very much so

## 2. Support/Stress

- a. To what extent did you feel accepted as part of the dental school
  - i. Not at all ① ② ③ ④ ⑤ very much so
  - ii. Explain
- b. To what extent was our FofD sympathetic (supportive) to your needs as an IDDP student?
  - i. Not at all ① ② ③ ④ ⑤ very much so
  - ii. Explain
- c. Given your previous training and knowledge as a dentist, to what extent do you feel you needed/wanted special treatment from instructors?
  - i. Not at all ① ② ③ ④ ⑤ very much so
  - ii. Explain
- d. To what extent do you feel you deserved to be treated with a different level of respect than other undergrad students, considering your previous dental training?
  - i. Not at all ① ② ③ ④ ⑤ very much so
  - ii. Explain
- e. To what extent do you feel integrated with the regular track students in
  - i. Your class?
    - 1. Not at all ① ② ③ ④ ⑤ very much so
    - 2. Explain
  - ii. In other classes?
    - 1. Not at all ① ② ③ ④ ⑤ very much so
    - 2. Explain
  - iii. Would this program be better if you were trained only with other foreign graduates?
- f. Overall, rank how you were treated by your instructors:
  - i. Impartial ① ② ③ ④ ⑤ biased
  - ii. Explain
- g. To what extent did you find each of the following as stressful:
  - i. Fear of failure
    - 1. Not at all ① ② ③ ④ ⑤ very much so
    - 2. Why?
  - ii. Lack of leisure time

1. Not at all ① ② ③ ④ ⑤ very much so
2. Why?
- iii. Patients
  1. Access to patients
    - a. Not at all ① ② ③ ④ ⑤ very much so
    - b. Why?
  2. Communicating with patients
    - a. Not at all ① ② ③ ④ ⑤ very much so
    - b. Why?
- iv. Access to Financial Resources
  1. Not at all ① ② ③ ④ ⑤ very much so
  2. Why?
- v. Access to Funding
  1. Not at all ① ② ③ ④ ⑤ very much so
  2. Why?
- vi. Feedback from clinical instructors
  1. Not at all ① ② ③ ④ ⑤ very much so
  2. Why?
- vii. Faculty
  1. Treatment by faculty
    - a. Not at all ① ② ③ ④ ⑤ very much so
    - b. Why?
  2. Attitude of faculty
    - a. Not at all ① ② ③ ④ ⑤ very much so
    - b. Why?
  3. Communication with faculty
    - a. Not at all ① ② ③ ④ ⑤ very much so
    - b. Why?
- viii. Treatment by staff (specifically non-faculty)
  1. Not at all ① ② ③ ④ ⑤ very much so
  2. Why?
- ix. Time management
  1. Not at all ① ② ③ ④ ⑤ very much so
  2. Why?
- x. Students
  1. Re-adapting to student-life?
    - a. Not at all ① ② ③ ④ ⑤ very much so
    - b. Why?
  2. Interpersonal relationships with non-IDDP classmates
    - a. Not at all ① ② ③ ④ ⑤ very much so
    - b. Why?
  3. Interpersonal relationships with IDDP classmates
    - a. Not at all ① ② ③ ④ ⑤ very much so
    - b. Why?

- h. Did you feel that you had adequate support systems?
  - i. Not at all ① ② ③ ④ ⑤ very much so
  - ii. Why?
- i. Who was available to support you:
  - i. Emotionally
  - ii. Academically
  - iii. Socially
  - iv. Spiritually
  - v. Other
- j. Did you know where to go for additional support?
- k. How well did you fit into the academic culture here Faculty of Dentistry?
  - i. Was more support needed here?
  - ii. What things did you do to make a successful transition into the culture?
  - iii. What things did the IDDP program do to help you make a successful transition into the culture?
  - iv. What changes would you make (personally, and program wise)?

### 3. IDDP Program Evaluation

- a. What are thoughts on costs
  - i. Tuition
  - ii. Kit
  - iii. Living expenses
- b. Were the 4-5 weeks of summer orientation with regards to courses
 

①	②	③	④	⑤
insufficient preparation		sufficient preparation		excessive preparation

  - i. why
- c. Were the 4-5 weeks of summer orientation with regards to instructors
 

①	②	③	④	⑤
insufficient preparation		sufficient preparation		excessive preparation

  - i. why
- d. To what extent did the IDDP program meet your expectations?
  - i. Not at all ① ② ③ ④ ⑤ very much so
  - ii. Why?
- e. To what extent did you find that the IDDP program prepared you adequately to practice dentistry in Canada?
  - i. Not at all ① ② ③ ④ ⑤ very much so
  - ii. Why?
- f. To what extent do you feel that a degree program or qualifying program is necessary for the re-training of foreign trained dentists?
  - i. Not at all ① ② ③ ④ ⑤ very much so
  - ii. Why?
- g. How would you best describe the IDDP program in terms of your previous training?
  - i. redundant ① ② ③ ④ ⑤ extending

- ii. Why?
- h. The demands of the clinical workload in the two years can be best described as:
- |              |   |            |   |           |
|--------------|---|------------|---|-----------|
| ①            | ② | ③          | ④ | ⑤         |
| insufficient |   | sufficient |   | excessive |
- i. why
- i. The demands of the didactic workload in the two years can be best described as:
- |              |   |            |   |           |
|--------------|---|------------|---|-----------|
| ①            | ② | ③          | ④ | ⑤         |
| insufficient |   | sufficient |   | excessive |
- i. why
- j. Feelings of being out of control of your learning environment?
- i. Not at all ① ② ③ ④ ⑤ very much so
- ii. Why?
- k. What would you describe as being the strengths of the IDDP program?
- l. If you were in charge of the IDDP program, what changes would you make?
- m. To what extent do you would you recommend the IDDP program to others?
- i. Not at all ① ② ③ ④ ⑤ very much so
- ii. Why?
4. Do you have any questions or concerns that were not addressed by the above questions you wish to share?

## Appendix B: IDDP Project Ethics Application



Bannatyne Campus Research Ethics Boards  
P126-770 Bannatyne Avenue  
Winnipeg, Mb R3E 0W3  
Phone: (204) 789-3255

For Administrative use only		
REB File Number:	Date Received:	Initials:

### BANNATYNE CAMPUS RESEARCH ETHICS BOARD SUBMISSION FORM

All information requested on this form **must be typewritten** in the space provided.  
Do not leave any question blank – indicate "not applicable" by typing N/A and provide rationale as required.  
Provide all answers on this form and do not reference the protocol unless specifically indicated in this form.

#### PART A:

##### APPROPRIATE ETHICS BOARD REVIEW:

Research proposals involving clinical trials and other biomedical research interventions are reviewed by the Biomedical Research Ethics Board (BREB), while any research involving behavioral sciences, databases, surveys, registries, specimen collection/banking and examination of medical records are reviewed by the Health Research Ethics Board (HREB).

1.0 Research Ethics Board (REB) to which study is being submitted:

- Health REB       Biomedical REB

##### TYPE OF STUDY:

2.0 Indicate which of the following best describes the type of investigation proposed (select more than one if applicable):

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Clinical Trial            | <input type="checkbox"/> Open-Label Study      | <input type="checkbox"/> Database                     |
| <input type="checkbox"/> Randomized Clinical Trial | <input type="checkbox"/> Device/Development    | <input checked="" type="checkbox"/> Qualitative Study |
| <input type="checkbox"/> Drug Study (Phase I)      | <input type="checkbox"/> Extension Study       | <input type="checkbox"/> Registry                     |
| <input type="checkbox"/> Drug Study (Phase II)     | <input type="checkbox"/> Chart Review          | <input type="checkbox"/> Survey                       |
| <input type="checkbox"/> Drug Study (Phase III)    | <input type="checkbox"/> Pilot Study           |   |
| <input type="checkbox"/> Drug Study (Phase IV)     | <input type="checkbox"/> Epidemiological Study |   |
| <input type="checkbox"/> Other (specify):          |  |   |

#### PART B:

##### PROJECT REGISTRATION:

3.0 Title of Research Study:

A Self-Assessment of the International Dentist Degree Program (IDDP) Graduates on their Undergraduate Educational Experiences

4.0 Sponsor protocol number:

N/A

5.0 What is the anticipated duration of this study (month/year)? From: April/05 To: Aug/05

6.0 Is this proposal closely linked to any other proposal previously/simultaneously submitted to either the BREB or HREB?  Yes  No  
If yes, describe the relationship of this proposal to the primary study and provide the REB file #:

N/A

7.0 Is this a Single-centre or Multi-centre study?  Single-centre  Multi-centre  
If this is a Multi-centre study, please provide the names of the other participating Canadian sites:

Site #1:

Site #2:

Site #3:

Site #4:

8.0 Principal Investigator:  
**The Principal Investigator must be either an employee or student of the University of Manitoba or have an academic appointment with the University of Manitoba or be a researcher affiliated with the WRHA.**

Title(s): Education Specialist, Ph.D. Associate Professor, Adj to Faculty of Educ, Adj to Dept of Psychology

Department/Program: Dean's Office

Faculty of Medicine  Faculty of Dentistry  Faculty of Pharmacy

School of Medical Rehabilitation  Faculty of

**OR,**

WRHA Researcher (To qualify as a WRHA Researcher you must be a researcher who is (i) employed by the WRHA or have a written contract for services with the WRHA; or (ii) have privileges under the WRHA's Medical Staff By-Law. If you are requesting review as a WRHA Researcher, your study must be carried out at facilities owned by or operated by the WRHA or under the direction of the WRHA.)

Institution: University of Manitoba

Mailing Address:

D09-780 Bannatyne Ave, Wpg Mb, R3E 0W2

Phone: 480-1302

Fax: 789-3912

E-Mail Address:

schonwet@cc.umanitoba.ca

9.0 Is this the Principal Investigator's first time submitting to the Research Ethics Board?  
 Yes  No If yes, please include 1 copy of Curriculum Vitae.

10.0 Is the Principal Investigator a student?  Yes  No

If yes, name of supervisor:

Department/Program:

Faculty of Medicine  Faculty of Dentistry  Faculty of Pharmacy

School of Medical Rehabilitation  Faculty of

**OR,**  WRHA Researcher (defined in question # 8.0)

Institution:

Mailing address (if different from the Principal Investigator):

Phone:

Fax:

E-Mail Address:

Purpose of Study:  Course Work

Thesis

Dissertation

11.0 Co-Investigators:

Name: Dr. Randy Mazurat

Institution: Univ of Manitoba

Name: Dr. Noriko Boorberg

Institution: Univ of Manitoba

Name: Dr. Vanessa Swain

Institution: Univ of Manitoba

Name:

Institution:

Name:

Institution:

Name:

Institution:

- 12.0. Study Coordinator:  
 Name: Dieter Schonwetter Institution: Univ of Manitoba  
 Mailing Address: D09-780 Bannatyne Ave, Faculty of Dentistry  
 Phone: 480-1302 Fax: 789-3912 E-Mail Address:  
 schonwet@cc.umanitoba.ca
- 13.0 Committee correspondence to be directed to (*Note: correspondence will be forwarded to one contact only*):  
 Principal Investigator or  Study Coordinator OR:  
 Name:  
 Address:  
 Phone: Fax: E-Mail Address:
- 14.0 Where will the study be conducted? Please specify site(s), unit(s) building(s), room number(s):  
 Site #1: University of Manitoba, Dentistry Building, Schwartz Theatre and Alpha Omega Board Room  
 Investigator: Schonwetter  
 Site #2: Investigator:  
 Site #3: Investigator:  
 Site #4: Investigator:

**FUNDING SOURCE/SPONSOR AND BUDGET:**

- 15.0 Name and address of Funding Source:

N/A

- 15.1 Classify the type of funding:

 For-profit sponsor  Grant  U of M Internal Funds  No Funding  Other

If other please specify: \_\_\_\_\_

- 15.2 Status of Funding: (
- Note: generally the REB will not review a proposal until funding is approved. If the funding agency requires ethics approval prior to awarding the funding please indicate this below. Please contact the REB office for further details.*
- )

 Awarded  Pending

If pending, please justify submission at this time:

N/A

- 15.3 Billing contact and address: (
- Please review the guideline titled "Fee Assessment Review of Research Proposal" on our website to determine if your protocol will be charged an Ethics Review Fee.*
- )

N/A

- 16.0 Budget Attached:
- 
- Yes
- 
- No
- 
- If no, please explain why: (
- A copy of the budget will be required prior to the REB granting final approval for the study.*
- )

N/A

**HEALTH CANADA APPROVAL:**

17.0 Does the study involve the use of investigational drugs/devices or the use of approved drugs/devices outside of their indications (e.g. new age group, new disease entity or new dose range)?

- Yes (Health Canada approval will be required.)  
 No **If no, go to question 19.0**

18.0 Has Health Canada approved the project? (*The Health Canada letter of approval will be required prior to the REB granting final approval of the study.*)

- Yes Date of approval:  
 1 copy of approval letter attached  
 Request for approval has been submitted to Health Canada (*Please submit a copy of the Health Canada letter of approval upon receipt.*) Date expected:

**RADIOACTIVE SUBSTANCES TO HEALTHY HUMAN VOLUNTEERS:**

**Refer to the policy titled "Procedures for Reviewing Research Requiring Administration of Radioactive Substances to Healthy Human Volunteers".**

**Policy and forms can be found on our website: [www.umanitoba.ca/faculties/medicine/research/ethics](http://www.umanitoba.ca/faculties/medicine/research/ethics)**

19.0 Does this research proposal require the administration of a radioactive substance to a healthy human volunteer?  Yes  No

**If yes, please attach the following documents:**

		Copies attached
19.1	2 copies of the RNSC HRRSC Research Proposal Summary Form	<input type="checkbox"/>
19.2	1 extra copy of the REB Submission Form	<input type="checkbox"/>
19.3	1 extra copy of the research protocol/proposal	<input type="checkbox"/>
19.4	1 extra copy of the Informed Consent Form(s)	<input type="checkbox"/>

*The REB office will forward these documents to the Radionuclide Safety Committee. Final approval of the study will be granted by the Research Ethics Board.*

**RESEARCH USING PERSONAL HEALTH INFORMATION COLLECTED AS PART OF MANITOBA HEALTH:**

20.0 Does the research proposal use personal health information or computerized health care utilization files ("administrative health information") collected as part of the use of Manitoba's health care system or held by a government department or agency?  Yes  No

If yes, you are required to forward an application to the Health Information and Privacy Committee (HIPC) at Manitoba Health.

The HIPC application form is available at:  
<http://www.gov.mb.ca/health/hipc>

If you have any questions or concerns, please contact Leonie Stranc at:  
 (204) 786-7204 or by e-mail [lstranc@gov.mb.ca](mailto:lstranc@gov.mb.ca)

***The investigator is responsible for completing these required forms and submitting them to HIPC.***



**PART C:****PROJECT DESCRIPTION:**

- 21.0 Provide a clear statement of the purpose and objectives of the project. *(If this information is available in a "protocol synopsis" please append 15/20 copies to this form and reference the synopsis. Do not attach pages of the protocol or reference pages in the protocol.)*

The aim of this study is to explore the perceptions of recent graduates on their International Dentist Degree Program (IDDP) training in the Faculty of Dentistry. Given that this is a fairly new program, the administration in the Faculty of Dentistry is interested in the current strengths and challenges of this program and the extent to which it is having a positive impact on international dentists wishing to get a license to practice Dentistry in Canada. The results from this qualitative study will be used to guide strategic planning for the future of the IDDP program.

- 22.0 Provide a summary of the design and procedures of the research. Include details of any specific manipulations, interventions, measures, drug names/therapeutic classifications, etc. *(If this information is available in a "protocol synopsis" please append 15/20 copies to this form and reference the synopsis. Do not attach pages of the protocol or reference pages in the protocol.)*

Graduating dental students who have participated in the International Dentist Degree Program in the Faculty of Dentistry will be asked to volunteer in completing the International Dentist Degree Program Outcome Assessment (IDDPOA) interview. The interview questions are straightforward, with no hidden agendas. The intervention is the teaching that students have received in each of three areas: classroom, laboratory, and clinic over their two years of being enrolled in the IDDP program.

- 23.0 If appropriate, specify which treatments or procedures are additional to those required for standard patient care. If additional hospitalization or outpatient visits are required (or are extended) include the number or days of visits.

N/A

**PARTICIPANT POPULATION:**

- 24.0 Describe the participant population(s). Include a description of the major inclusion/exclusion criteria. *(If this information is available in a "protocol synopsis" please append 15/20 copies to this form and reference the synopsis. Do not attach pages of the protocol or reference pages in the protocol.)*

Participants include all graduating IDDP students.

- 25.0 Will any participants be included who are:  
*(Do not complete this question for database or chart review studies.)*

Healthy volunteers (in clinical trials):	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Minors (under the age of 18 years):	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Cognitively impaired:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Residing in institutions (e.g. prison, extended care facility):	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Students of researcher's team:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Patients/clients of the treating physician or health care provider:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Employees of researcher's organization:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
In emergency or life-threatening situations:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Experiencing language barriers (e.g. illiterate, non-English speaking, dysphasic):	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

- 26.0 Will persons of aboriginal origin be a special cohort in the study?  Yes  No  
If yes, outline any process to be followed respecting the consultation with the appropriate community in the design and conduct of the study.

N/A

**SAMPLE SIZE:**

- 27.0 How many participants, including controls, will be enrolled in the entire study (i.e. from all multi-centre sites)? 4  
Of these, how many participants will be enrolled at this Principal Investigator's site(s)? 4

- 28.0 Justify the sample size on scientific grounds. If a formal sample size calculation was not used, give a rationale for the proposed number of participants. (*This information is not required for studies only using qualitative methods of data collection.*)

this is the total sample size of the population of interest

**STANDARD OF CARE:**

- 29.0 For research involving therapies, procedures and interventions, what is the standard of care in Manitoba for this patient population?

N/A

**PLACEBO CONTROLLED TRIALS AND TRIALS WITHOLDING STANDARD CARE:**

- 30.0 Are any standard therapies or diagnostic procedures to be withheld during the course of the study?  Yes  No  
31.0 Will a placebo be used in lieu of standard care?  Yes  No  
32.0 Will management or treatment of the participant's condition be prolonged or delayed because of the research?  Yes  No  
33.0 **If yes to any of the above (30.0- 32.0), please complete questions 33.1-33.5. If no to all of the above, proceed to question 34.0.**

- 33.1 Describe how participants will be assigned to the different treatment arms.

N/A

- 33.2 Is there an alternative treatment available? If so, please explain and indicate how this is conveyed to the participants and where it is discussed in the Informed Consent Form.

N/A

- 33.3 Provide a scientific rationale why "standard of care" must be delayed/withheld or why placebo is used when known effective treatment exists.

N/A

- 33.4 Discuss the ethical justification why "standard of care" may be delayed/withheld or why placebo is used when known effective treatment exists.

N/A

- 33.5 Discuss the potential risks to participants on placebo and how these risks will be minimized so that no harm may result to these participants. Indicate where this is explained in the Informed Consent Form.

N/A

#### BIOLOGICAL SPECIMENS:

Refer to our guideline titled "*Guidelines for Research Involving Stored Biological Materials*".  
Guideline can be found on our website: [www.umanitoba.ca/faculties/medicine/research/ethics](http://www.umanitoba.ca/faculties/medicine/research/ethics)

***A separate Informed Consent Form or addendum must be presented to participants of clinical drug trials when specimens are being used for genetic analysis or stored for future research purposes.***

- 34.0 Will blood or tissues be taken for the purposes of the research?  Yes  No  
34.1 Are any tissue or blood samples being used for genetic analysis?  Yes  No  
34.2 Will the study involve the storage of blood/tissue or other specimens?  Yes  No

**If yes to any of the above (3.0-34.2), complete questions 34.2.1- 34.2.4. If no to all of the above, proceed to question 35.0.**

- 34.2.1 Describe what specimens will be taken and the type of research for which the specimens will be used.

N/A

- 34.2.2 Indicate the location and maximum length of storage of these specimens.

N/A

- 34.2.3 Will there be a code that allows linkage of the specimens back to the original study and/or the patient's clinical records?  Yes  No

If yes, describe how specimens will be coded to protect confidentiality and indicate who will maintain the link to identifying information.

N/A

34.2.4 What are the institutional or sponsor's procedures/policies for accessing the stored specimens?

N/A

**INSTRUMENTS TO BE USED IN STUDY:**

*(Instruments are questionnaires, assessment forms, scales, interviews, surveys and diaries, etc.)*

35.0 Will instruments be used in this study?  Yes  No  
If yes, list all instruments and provide 6 copies of each instrument.

Yes, the International Dentist Degree Program Outcome Assessment (IDDPOA) interview questionnaire.

**RECRUITMENT:**

Refer to our guideline titled "*The Application of the PHIA in a Research Ethics Context*" when designing your recruitment plan.

Guideline can be found on our website: [www.umanitoba.ca/faculties/medicine/research/ethics](http://www.umanitoba.ca/faculties/medicine/research/ethics)

36.0 How will participants be screened and from where?

No screening given that the total population will be invited to participate

37.0 Who will be recruiting participants? Who is initially contacting participants about the research? How will participants be approached/contacted? (*Keeping the participants' rights to privacy and confidentiality in mind, explain how this is the best approach to recruitment.*)

The Associate Dean (Academic) will invite all fourth year IDDP (graduating) students to attend a short 15-20 minute meeting with the other three researchers to provide background information concerning the significance of the study. IDDP students from the graduating class will be invited to participate in the study and provided details on the day and room (Schwartz Theatre) where they will meet to complete the CDSCA questionnaire.

38.0 What is the Investigator's relationship to the study participants?

Principle Investigator is a Education Specialist and deals directly with faculty. He has no direct interaction with students and thus is seen as the ideal individual to administer the questionnaire.

39.0 Is advertising being considered as a recruitment method for this trial? (*REB approval of all advertisements is required prior to posting.*)

- Yes If yes, please include 6 copies of all advertising material.  
 No  
 Advertising material will be submitted at a later date.

40.0 Will participants be contacted by mail regarding potential participation? (*REB approval of any recruitment letter sent to potential participants is required.*)

- Yes If yes, please include 6 copies of all advertising material.  
 No

**INFORMED CONSENT PROCESS AND DOCUMENTATION:**

Refer to our guideline titled "*Informed Consent Guidelines*" when designing procedures required to obtain informed consent.

Guideline can be found on our website: [www.umanitoba.ca/faculties/medicine/research/ethics](http://www.umanitoba.ca/faculties/medicine/research/ethics)

- 41.0 Will consent be obtained from potential participants prior to any study-related activity?  
 Yes  No  
 If no, please justify why consent will not be obtained or justify why consent is not appropriate and then proceed to question 45.0.

N/A

- 42.0 Describe the procedures/processes used to obtain informed consent including where and under what circumstances.

Informed consent will be obtained following the introduction of the study by the Associate Dean (Academic) at the 15-20 minute meeting. The Principle Investigator will stay in the room after each of the other three researchers have left and will then request students to volunteer to participate and complete the consent form as an indication of their willingness to participate.

- 42.1 Who will obtain consent from participants? **Note: clinicians are not permitted to obtain consent from their own patients.**

The Principle Investigator is a Education Specialist and deals directly with faculty. He has no direct interaction with students and thus is seen as the ideal individual to obtain consent from participants. He has no involvement in the evaluation of the student performance (e.g., grades) at any level.

- 43.0 Will every participant be competent to give fully informed consent on his/her own behalf?  
 Yes  No  
**If yes, go to question 44.0.** If no, provide details of the nature of the incompetence and indicate who will consent on his/her behalf.

N/A

- 43.1 If a participant is not competent to give fully informed consent, will he/she be able to assent to be a participant?  
 Yes  No  
 If yes, explain how assent will be sought. (Include 15/20 copies of an assent form, if appropriate, in your submission.)

N/A

- 44.0 Has the **REQUIRED** University of Manitoba Bannatyne Campus Ethics Board consent form template for clinical or non-clinical trials been used to document the consent process?

**Clinical template of required elements:**

<http://www.umanitoba.ca/faculties/medicine/research/ethics/docs/icfw.doc>

**Non-clinical template of required elements:**

<http://www.umanitoba.ca/faculties/medicine/research/ethics/docs/hrebicfmw.doc>

Yes  No

If no, please justify and also explain how consent is documented when written consent is not obtained.

N/A

**COMPENSATION AND COSTS:**

45.0 Will the participants be compensated or reimbursed for their time and expenses?

Yes  No

If yes, provide details. Specify the type of reimbursement, amount/value of gift, what the compensation or reimbursement is for, and how payment will be determined for participants who do not complete the study. (*This information must be included in the Informed Consent Form.*)

N/A

46.0 Are participants likely to incur any additional expenses as a result of their participation in this study?

Yes  No

If yes, provide details. Specify the expenses and the amount. (*This information must be included in the Informed Consent Form.*)

N/A

**PRIVACY AND CONFIDENTIALITY:**

47.0 Describe the procedures used to respect the privacy of participants and to protect the confidentiality of personal health information/data both during the research and in the release of the findings. (*Do not state "in compliance with PHIA."*) Specify what identifying information (e.g. name, address, date of birth, initials, etc.) is collected on records that leave the study site.

Student names and student numbers will be collected to be used for purposes of merging final grades in their dentistry courses. Once the data has been merged, the names and student numbers will be removed.

48.0 Specify how long personal health information (identifying information) and data will be retained and the procedures for securing/storing written records, videotapes, computer discs, recordings and questionnaires, etc. (*Note: identifying information needs to be secured/locked. When identifying information is entered into a computer, the database must be PHIA compliant.*)

The records will be locked in a file and stored in the PI' office, and destroyed 7 years following the study. The only person with access to these files will be the Principle Investigator. The information will be entered into a computer and the database will be PHIA compliant.

49.0 Describe the procedures used to destroy personal health information contained in written records, videotapes, computer files and questionnaires, etc.

Personal health information will not be obtain, but rather information concerning students' perceptions on their learning experience at the Faculty of Dentistry. The questionnaires will be stored in a secure and locked file in the PI's office and will be destroyed (shredded) after 7 years. Following the merging of data, student numbers and student names will be removed so that confidentiality and privacy is maintained.

50.0 Will the PHIN (Personal Health Information Number) be collected?

Yes  No

If yes, specify why it is being collected. **If no, go to question 51.**

N/A

50.1 Indicate how the PHIN is going to be linked to other information including identifying information.

N/A

- 51.0 Identify all agencies or individuals who may have access to confidential data collected for this study and information in medical records, now or in the future (e.g. the sponsor(s), CRO's, regulatory agencies such as Health Canada or the FDA, etc.). Specify what data they will access and explain the purpose of this access.

No medical records will be accessed. Once the names and student numbers have been removed, the PI will provide limited access to each of the three co-investigators for purposes of analyses. However, analyses will be conducted only on the PI's computer and will be password protected.

#### MONITORING OF SAFETY DATA:

- 52.0 Is there an independent (of the sponsor) Data and Safety Monitoring Board (DSMB) who will be monitoring the serious adverse events (SAE's) and safety/efficacy data?  Yes  No

If not, who will be monitoring this data and what procedures will be used?

N/A

- 53.0 Describe the circumstances under which the study could be stopped early. Should this occur, describe what provision(s) would be put in place to ensure that the participants are fully informed of the reasons for stopping the study.

N/A

- 54.0 Describe the provisions made to break the code of a double-blind study in an emergency situation, and indicate who has the code.

N/A

#### PARTICIPANT FEEDBACK:

- 55.0 Briefly describe any plans for provision of feedback to participants about the research after they have completed their participation. How will the feedback be provided and by whom? If feedback will not be given, please explain why feedback is not planned.

Feedback will be provided in the form of an executive summary which will be made available on the Faculty of Dentistry website following the study (anticipated date: Sept. 2006).

#### POTENTIAL CONFLICT OF INTEREST:

- 56.0 Do any of the study personnel or immediate family members have any affiliation with, or financial involvement in any organization or entity with a direct or indirect interest in the participant matter or materials of this research?  Yes  No

If yes, please describe:

N/A

- 57.0 Is the investigator or any other member of the research team receiving financial compensation to conduct this study?  Yes  No  
If yes, please describe and indicate where in the informed consent the financial disclosure statement is.

N/A

- 58.0 Are there any additional recruitment or study bonuses being paid to the study site (e.g. "recruitment bonuses" paid per patient or for recruiting an accrual goal within a specific time frame, or being paid or paying a "finders fee" for referral of potential participants)?  Yes  No

If yes, specify the amount and what the payment will be used for. (The REB generally will not approve such recruitment incentives or bonuses. The PI must not accept such bonuses at any time without prior consultation of the REB.)

N/A

#### DATA ANALYSIS:

- 59.0 Describe what will happen to the data at the end of the study.

Following the analysis of data and the completion of the study, the data will remain in the PI's computer in a password protected file for a period of 7 years following the final publication of the findings. Thereafter, the data will be deleted from the computer and the hard copies incinerated.

- 59.1 Do you anticipate secondary analysis of study data? (Note: secondary analysis requires further REB approval.)  Yes  No

If yes, describe what plans there are for future use of the data.

There is a good potential for a longitudinal study to compare different graduating cohorts from this university as well as potentially other universities. Part of the consent form will clearly detail this and request for participant's permission to use the data for such purposes.

#### INVESTIGATOR AGREEMENTS/CONTRACTS:

- 60.0 Has your contract with the Sponsor been reviewed and approved by the Research Service office of your institution?  Yes  No

If no, please indicate the anticipated date of approval by the appropriate institution(s).

There is no sponsor for this research

- 61.0 Does the contract require that the sponsor have direct access to patient clinical records?  Yes  No

If yes, the sponsor's personnel directly reviewing study/clinical records may be required to sign a confidentiality pledge at the institution(s).

- 62.0 Is this study receiving USA Federal Funds (i.e. NIH grants, Centers for Disease Control, US Army, etc.)?  Yes  No

If yes, attach the certificate(s) of the online NIH course titled, "**Human Participants Protection Education for Research Teams**" for all relevant key personnel listed on the grant/contract.  
<http://cme.cancer.gov/clinicaltrials/learning/humanparticipant-protections.asp>

Provide the names of relevant personnel completing on-line course:

NA



**OTHER ETHICAL ISSUES:**

63.0 Are there any other ethical issues that you would like the committee to consider?

Yes

No

If yes, please explain:

N/A

**INSTITUTIONAL APPROVAL:**

64.0 Has your research proposal/protocol been submitted to the Research Department of the institution in which you intend to conduct the research? (*Prior to commencing any research related activity, institutional approval may be required. In the case of international research, the Bannatyne Campus REB requires evidence of local ethics approval or the reason why local ethics approval is not possible prior to granting final approval to conduct the study.*)

Yes

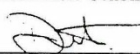
Date submitted: March 3, 2005

No

If no, indicate date of anticipated submission or provide reason why institutional or local ethics approval is not required.


**SIGNATURES:**

Ensure all signatures have been obtained or indicate in the cover letter that the signature will follow prior to the full board meeting date.

<b>Signature of Principal Investigator attesting that:</b>	
<ul style="list-style-type: none"> <li>a) all investigators/co-investigators have reviewed the protocol contents and are in agreement with the protocol submitted;</li> <li>b) all investigator/co-investigators have read the Tri-Council Policy Statement and the University of Manitoba Policy 1406 and agree to abide by the guidelines therein;</li> <li>c) all study personnel will adhere to the protocol and consent forms as approved by one of the Bannatyne Campus Research Ethics Boards (REB);</li> <li>d) as the principal investigator I will notify the REB of any protocol changes and report adverse events/experiences in a timely manner as per Bannatyne Campus REB guidelines;</li> <li>e) the study will not commence until I have received the final certificate of approval from the REB;</li> <li>f) the study will not commence until the appropriate institutional approval (i.e. local hospital approval or local ethics approval) has been obtained;</li> <li>g) I will submit a request for annual approval to the REB prior to the expiry date indicated on the approval certificate;</li> <li>h) I will submit a final study status report to the REB when all study activity is completed at the local site;</li> <li>i) if I am a University researcher, I hereby consent that the REB may provide written notice of their approval of this protocol to the institution in which the research will be conducted;</li> <li>j) if I am a WRHA Researcher, I hereby consent that the REB may provide written notice of their review of this protocol to the WRHA and any WRHA facility in which the study will be conducted. The written notice may include my name, whether the protocol was approved or rejected, the reasons for any rejection and any conditions placed on approval.</li> </ul>	
<b>Printed Name of Principal Investigator: Dr. Dieter Schonwetter</b>	
<b>Signature of Principal Investigator:</b> 	<b>Date:</b> 4 March 2005


**For Student Projects:**

<b>Printed Name of Supervisor:</b>	
<b>Signature of Supervisor:</b>	<b>Date:</b>

<b>Signature of Department Head or Delegate attesting that:</b>	
I have reviewed this research protocol and confirm that there is sufficient scientific merit to warrant this submission.	
<b>Printed Name of Department Head or Delegate:</b>	
<b>Signature of Department Head or Delegate:</b> 	<b>Date:</b> 3 March 2005


**SIGNATURES:**

Ensure all signatures have been obtained or indicate in the cover letter that the signature will follow prior to the full board meeting date.

<b>Signature of Principal Investigator attesting that:</b>	
<p>a) all investigators/co-investigators have reviewed the protocol contents and are in agreement with the protocol submitted;</p> <p>b) all investigator/co-investigators have read the Tri-Council Policy Statement and the University of Manitoba Policy 1406 and agree to abide by the guidelines therein;</p> <p>c) all study personnel will adhere to the protocol and consent forms as approved by one of the Bannatyne Campus Research Ethics Boards (REB);</p> <p>d) as the principal investigator I will notify the REB of any protocol changes and report adverse events/experiences in a timely manner as per Bannatyne Campus REB guidelines;</p> <p>e) the study will not commence until I have received the final certificate of approval from the REB;</p> <p>f) the study will not commence until the appropriate institutional approval (i.e. local hospital approval or local ethics approval) has been obtained;</p> <p>g) I will submit a request for annual approval to the REB prior to the expiry date indicated on the approval certificate;</p> <p>h) I will submit a final study status report to the REB when all study activity is completed at the local site;</p> <p>i) if I am a University researcher, I hereby consent that the REB may provide written notice of their approval of this protocol to the institution in which the research will be conducted;</p> <p>j) if I am a WRHA Researcher, I hereby consent that the REB may provide written notice of their review of this protocol to the WRHA and any WRHA facility in which the study will be conducted. The written notice may include my name, whether the protocol was approved or rejected, the reasons for any rejection and any conditions placed on approval.</p>	
<b>Printed Name of Principal Investigator: Dr. Dieter Schonwetter</b>	
<b>Signature of Principal Investigator:</b> 	<b>Date:</b> 4 March 2005

**For Student Projects:**

<b>Printed Name of Supervisor:</b>	
<b>Signature of Supervisor:</b>	<b>Date:</b>

<b>Signature of Department Head or Delegate attesting that:</b>	
I have reviewed this research protocol and confirm that there is sufficient scientific merit to warrant this submission.	
<b>Printed Name of Department Head or Delegate:</b>	
<b>Signature of Department Head or Delegate:</b> 	<b>Date:</b> 3 March 2005

## **Protocol**

**Date:** March 2, 2005

**Title:** A Self-Assessment of the International Dentist Degree Program (IDDP) Graduates on their Undergraduate Educational Experiences.

### **Purpose of Study**

This research study will explore the perceptions of recent International Dentist Degree Program (IDDP) graduates on their undergraduate training in the Faculty of Dentistry. More specifically, this study will focus on identifying the strengths and challenges of the current IDDP program. Research finding from this qualitative study will be used in strategic planning purposes for refining and improving the current IDDP program.

### **Methodology** (Instruments, Participants, and Procedure)

A total of four graduating dental students currently participating in the Faculty of Dentistry International Dentist Degree Program will be asked to volunteer in completing the International Dentist Degree Program Outcome Assessment (IDDP OA) interview. The interview are scheduled to occur (April XX) after studenta have completed their final course work. Each interview will be captured by an audio-recorder and transcribed for further analysis.

The interview consists 60 questions divided into one of four major sections:

1. Demographics (e.g., gender, age, family situation, social network, etc.)
2. Support and Stress (e.g., feelings of being accepted in the dental school, etc.)
3. IDDP Program Evaluation (e.g., to what extent the IDDP met their expectations, etc.)
4. Additional questions or comments that participants may have.

This interview is the first of its kind and will be used as a pilot.

### **Anticipated Outcomes**

As a pilot study, we anticipate a confirmation by students of various IDDP program elements as well as the challenges that exist. The finding will also guide strategic planning for strengthening the current IDDP. Also of interest is the refinement of the IDDP OA interview instrument for further studies.

## RESEARCH PARTICIPANT INFORMATION AND CONSENT FORM

**Title of Study:** A Survey of Errors Occurring in an Undergraduate Dental Program.

**Principal Investigator:**

- Dr. Vanessa Swain, D227-780 Bannatyne Ave, Faculty of Dentistry, 789-3734.

**Co-Investigators:**

- Dr. Denny Smith, D227-780 Bannatyne Ave, Faculty of Dentistry, 789-3594.
- Dr. Noriko Boorberg, D227-780 Bannatyne Ave, Faculty of Dentistry, 789-3752.

**Sponsor:** Dean's Office – Faculty of Dentistry

You are being asked to participate in a research study. Please take your time to review this consent form and discuss any questions you may have with the study staff. You may take your time to make your decision about participating in this study and you may discuss it with your friends or family before you make your decision. This consent form may contain words that you do not understand. Please ask the study staff to explain any words or information that you do not clearly understand.

**Purpose of Study**

This research study will explore and assess the types of errors occurring in an undergraduate dental program. More specifically, this study will focus on the students' response to errors that occur and their perceived reaction of patients and faculty members. It is anticipated that the results from this study will be used to guide strategic planning in error reduction and prevention, in the undergraduate program.

A total of 70 participants will participate in this study.

*Study Procedures*

Third and fourth year dental students in the Faculty of Dentistry will be asked to volunteer in completing the Clinical Errors Assessment (CEA) questionnaire. The questions pertain to the occurrence of errors in the clinical setting. We are interested in student responses as a group.

**If you take part in this study, you will:**

Complete the Clinical Errors Assessment (CEA) questionnaire. A description of your most significant clinical error that occurred during the past year will be requested. The questionnaire will ask you to identify your feelings and response to the occurrence of the error. Furthermore, you will be asked to describe the response of the patient and the faculty as perceived by you. You will also be asked to describe the setting in which the error occurred and any factors which may have had led to the occurrence of the error.

Participation in the study will last for a maximum of 1.5 hours. However, the data may be used as part of a longitudinal study, comparing various student cohorts over a number of years and also as part of a pan-Canadian study that will compare data from graduating students across Canadian Dental schools.

You can stop participating in the study at any time. However, if you decide to stop, we encourage you to talk to the study staff first. There are no consequences to you for withdrawing from this study.

Aggregate results will be provided to participants following the completion of the study (expected for September 2006). An executive summary will be made available on the Faculty of Dentistry website, under Current Research Findings.

### **Risks and Discomforts**

There are no risks or discomforts associated with this study.

### **Benefits**

There may or may not be direct benefit to you from participating in this study. We hope the information learned from this study will benefit patients of the Faculty of Dentistry through a reduction of clinical errors. We also anticipate a benefit to future students enrolling in the Faculty of Dentistry program, by minimizing the negative impact of errors on their emotional well-being.

### **Costs**

All the procedures performed as part of this study are provided at no cost to you. You will receive no payment or reimbursement for any expenses related to taking part in this study.

### **Confidentiality**

Information gathered in this research study may be published or presented in public forums, however no identifying information will be used. Despite efforts to keep all personal information confidential, absolute confidentiality cannot be guaranteed. Your personal information may be disclosed if required by law. No personal information regarding your identity or that of your patients and others involved is required as part of the CEA questionnaire.

The University of Manitoba Health Research Ethics Board may review records related to the study for quality assurance purposes.

All records will be kept in a locked secure area and only those persons identified above will have access to these records. If any of your research records need to be copied to any of the above, your name and all identifying information will be removed. No information revealing any personal information such as your name, address, telephone number or email address will leave the University of Manitoba.

**Voluntary Participation/Withdrawal from the Study**

Your decision to take part in this study is voluntary. You may refuse to participate or you may withdraw from the study at any time. Your decision not to participate or to withdraw from the study will not influence your performance evaluation.

**Questions**

You are free to ask any questions that you may have about the study and your rights as a research participant. If any questions arise during or after the study, contact the Principle Investigator: Dr. Vanessa Swain at 789-3734.

For questions about your rights as a research participant, you may contact The University of Manitoba, Bannatyne Campus Research Ethics Board Office at (204) 789-3389.

Do not complete the survey unless you have had a chance to ask questions and have received satisfactory answers to all of your questions.

**Statement of Consent**

I have read this consent form. I have had the opportunity to discuss this research study with Dr. Swain and/or her study staff. I have had my questions answered by them in language I understand. The risks and benefits have been explained to me. I believe that I have not been unduly influenced by any study team member to participate in the research study by any statements or implied statements. Any relationship (such as employer, supervisor or family member) I may have with the study team has not affected my decision to participate. I understand that my participation in this study is voluntary and that I may choose to withdraw at any time. I freely agree to participate in this research study.

I understand that information regarding my personal identity will be kept confidential, but that confidentiality is not guaranteed. I authorize the inspection of any of my records that relate to this study by The University of Manitoba Research Ethics Board for quality assurance purposes.

In completing and returning the Errors Assessment Questionnaire, I have given my voluntary consent to participate in the research study. I also give permission to the Principle Investigator to use my data as part of a larger longitudinal study (period of 10 years) and for a pan-Canadian study.

By completing the survey, I have not waived any of the legal rights that I have as a participant in a research study.

## Appendix C: IDDP Ethics Approvals for Years 2005 -2009.



BANNATYNE CAMPUS  
Research Ethics Boards

P126-770 Bannatyne Avenue  
Winnipeg, Manitoba  
Canada R3E 0W3  
Tel: (204) 789-3255  
Fax: (204) 789-3414

## APPROVAL FORM

Principal Investigator: Dr. Dieter Schönwetter

Protocol Reference Number: H2005:046  
Date of REB Meeting: March 21, 2005  
Date of Approval: October 12, 2005  
Date of Expiry: March 21, 2006

Protocol Title: "A Self-Assessment of the International Dentist Degree Program (IDDP) Graduates on their Undergraduate Educational Experiences"

The following is/are approved for use:

- Approval to proceed with Phase I of project (submitted April 6, 2005)

The above was approved by Dr. Ken Brown, Chair, Health Research Ethics Board, Bannatyne Campus, University of Manitoba on behalf of the committee per your letter dated October 11, 2005. The Research Ethics Board is organized and operates according to Health Canada/CH Good Clinical Practices, Tri-Council Policy Statement, and the applicable laws and regulations of Manitoba. The membership of this Research Ethics Board complies with the membership requirements for Research Ethics Boards defined in Division 5 of the *Food and Drug Regulations*.

This approval is valid for one year from the date of the REB meeting at which the study was reviewed. A study status report must be submitted annually and must accompany your request for re-approval. Any significant changes of the protocol and informed consent form should be reported to the Chair for consideration in advance of implementation of such changes. The REB must be notified regarding discontinuation or study closure.

This approval is for the ethics of human use only. For the logistics of performing the study, approval should be sought from the relevant institution, if required.

Sincerely yours,

Ken Brown, MD, MBA  
Chair  
Health Research Ethics Board  
Bannatyne Campus

Please quote the above protocol reference number on all correspondence.

Inquiries should be directed to the REB Secretary Telephone: (204) 789-3255 / Fax: (204) 789-3414





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APPROVAL FORM

Principal Investigator: Dr. Dieter Schönwetter

Protocol Reference Number: H2005:046

Date of Approval: April 13, 2006

Date of Expiry: March 21, 2007

Protocol Title: "A Self-Assessment of the International Dentist Degree Program (IDDP) Graduates on their Undergraduate Educational Experiences"

The following is/are approved for use:

- Annual Approval

The above was approved by Dr. Laine Torgrud, Ph.D., C. Psych., Acting Chair, Health Research Ethics Board, Bannatyne Campus, University of Manitoba on behalf of the committee per your letter dated April 6, 2006. The Research Ethics Board is organized and operates according to Health Canada/ICH Good Clinical Practices, Tri-Council Policy Statement, and the applicable laws and regulations of Manitoba. The membership of this Research Ethics Board complies with the membership requirements for Research Ethics Boards defined in Division 5 of the *Food and Drug Regulations*.

**This approval is valid for one year only.** A study status report must be submitted annually and must accompany your request for re-approval. Any significant changes of the protocol and informed consent form should be reported to the Chair for consideration in advance of implementation of such changes. The REB must be notified regarding discontinuation or study closure.

This approval is for the ethics of human use only. For the logistics of performing the study, approval should be sought from the relevant institution, if required.

Sincerely yours,

Laine Torgrud, Ph.D., C. Psych.  
Acting Chair, Health Research Ethics Board  
Bannatyne Campus

**Please quote the above protocol reference number on all correspondence.**

Inquiries should be directed to the REB Secretary Telephone: (204) 789-3255 / Fax: (204) 789-3414



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APPROVAL FORM

Principal Investigator: Dr. Dieter Schönwetter

Ethics Reference Number: H2005:046

Date of Approval: December 23, 2008

Date of Expiry: March 21, 2009

Protocol Title: *A Self-Assessment of the International Dentist Degree Program (IDDP) Graduates on their Undergraduate Educational Experiences*

The following is/are approved for use:

- Annual Approval

The above was approved by Dr. John Arnett, Ph.D., C. Psych., Chair, Health Research Ethics Board, Bannatyne Campus, University of Manitoba on behalf of the committee per your submission dated December 15, 2008. The Research Ethics Board is organized and operates according to Health Canada/ICH Good Clinical Practices, Tri-Council Policy Statement, and the applicable laws and regulations of Manitoba. The membership of this Research Ethics Board complies with the membership requirements for Research Ethics Boards defined in Division 5 of the *Food and Drug Regulations*.

**This approval is valid until the expiry date only.** A study status report must be submitted annually (**by the anniversary expiry date**) and must accompany your request for re-approval. Any significant changes of the protocol and informed consent form should be reported to the Chair for consideration in advance of implementation of such changes. The REB must be notified regarding discontinuation or study closure.

This approval is for the ethics of human use only. For the logistics of performing the study, approval must be sought from the relevant institution, if required.

Sincerely yours,

John Arnett, Ph.D., C. Psych.  
Chair, Health Research Ethics Board  
Bannatyne Campus

**Please quote the above Ethics Reference Number on all correspondence.**

Inquiries should be directed to the REB Secretary Telephone: (204) 789-3255 / Fax: (204) 789-3414

## Appendix D: Masters of Education Thesis Ethics Approval – Part I.




**UNIVERSITY OF MANITOBA** | **Ethics**  
Office of the Vice-President (Research)

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208 - 194 Dafoe Road  
Winnipeg, MB R3T 2N2  
Fax (204) 269-7173  
[www.umanitoba.ca/research](http://www.umanitoba.ca/research)

**APPROVAL CERTIFICATE**

June 1, 2010

**TO:** **Noriko Boorberg** Advisor - D. Schönwetter  
Principal Investigator

**FROM:** **Lorna Guse, Chair**   
Education/Nursing Research Ethics Board (ENREB)

**Re:** **Protocol #E2009:137**  
**"International Dentist Degree Student's Educational Experiences, Perceptions, and Adaptation to the International Dentist Degree Program at the University of Manitoba"**

Please be advised that your above-referenced protocol has received human ethics approval by the **Education/Nursing Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement. This approval is valid for one year only.

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

**Please note:**

- if you have funds pending human ethics approval, the auditor requires that you submit a copy of this Approval Certificate to Eveline Saurette in the Office of Research Services, (e-mail [eveline\\_saurette@umanitoba.ca](mailto:eveline_saurette@umanitoba.ca), or fax 261-0325), including the Sponsor name, before your account can be opened.
- if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.

**The Research Ethics Board requests a final report for your study (available at: [http://umanitoba.ca/research/ors/ethics/ors\\_ethics\\_human\\_REB\\_forms\\_guidelines.html](http://umanitoba.ca/research/ors/ethics/ors_ethics_human_REB_forms_guidelines.html)) in order to be in compliance with Tri-Council Guidelines.**

Appendix E: Masters of Education Thesis Ethics Approval – Part II

Appendix F: Example of Codes and Associated Transcriptions for the Theme Demands of the Program.

Code	Associated Transcriptions
Family Pressures/Time	<p>“Yes, it is tough program and there are many demands are big, especially since I do not have time to see my family... sometimes I would not even see my daughter and that was hard/stressful”.</p> <p>It is tough for my family.... there was mostly lab works so we have to stay behind after school finishes sometimes till 7 or 8 o’clock that night. We start the day at 8:30 until 8 or 9 p.m., then I’d go home and hadn’t seen my family all day”.</p> <p>“ I go to school and then at the end of the day, I run out of here and go home. I don’t sit in the lounge and socialize with other students, I just come here to do whatever I have to do and then just run back home to my family. So we did not really get that close with the other students especially those that are single as they do not have the responsibilities as me”.</p>
Program Stress	<p>“Clinic was demanding and you don’t know what they want, especially the lab work is the main thing... I feel that they always want things so perfectly”.</p> <p>“I feel like I have to be at the top of the class because I was a dentist, they are threatened by you all the time and they are gonna lose it...It is a horrible feeling that you feel you are threatened by this all the time. You are afraid that things can happen, and you might be kicked out”.</p>
Exam Stress	<p>“I had a hard time understanding how much information they wanted in the didactic portion and that was stressful as I didn’t do very well.... I did not know how much they wanted me to write down. I had a hard time with exams”.</p> <p>“The whole atmosphere to do good is scary, you feel always threatened if you don’t do good, always feel like failure or remediation yeah, I feel like I have to get this out of my mind why I feel so stressed, so stressful all the time”.</p>
Patient communication	<p>“The difficult part for me in the beginning, yeah, it accents, patients have accent and I have accent, it was very stressful in the beginning for me”.</p> <p>“Sometimes, I just didn’t understand, fully understand, that’s the problem. Yeah, especially I think for the English part, not everybody needs this kind of help but there is really the need if you can get some support of training for the oral part”.</p> <p>“The communication skills I have for me are ok, my most biggest barrier is the language problem”.</p>
Excess Lab Work	<p>“Third year was horrible for me year, but the system was holding me back, yeah, I need to get crown done and endo but you go do lab work and you will be pushed back because your lab work is not done”.</p>

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Patient Availability/ Accessibility	<p>“Too much lab work, it is not necessary, um, cause we did it already”.</p> <p>“There was a lot of lab work. There was very little time during the day and only a one hour lunch break at which time you really needed to take a break...I would stay doing lab work till midnight. I think a lot of students did that as well. This is high level stress”.</p> <p>“Patient access has always been a problem and it is stressful no matter if you are an IDDP student or a regular student”.</p>
Financial Burden	<p>“The school does a pretty good job but it depends upon the student because sometimes you have a patient, and you can’t manage your patient very well and you might lose the patient”.</p> <p>“The school need to see its not your fault if you lose patients, they do their best to supply you with other patients”.</p> <p>“It is out of your control whether you find a good patient, yeah it was very hard, especially when you have not other endo patient”.</p> <p>“It was stressful not being to get a hold of them, either they are not interested in treatment or you would call and leave messages”.</p> <p>“Those patients who are serious will come to appointment... those that you have to run after are just a waste of time and I didn’t even bother with those kinds of patients, I don’t have the time for games”.</p> <p>“I have no family here and I told them that I tried to clarify it for them but they insisted on a co-signer ... it was a lot stressful cause without the loan, I would not have been able to finish”.</p> <p>“It was stressful to think about because it’s a lot of tuition”.</p>
Re-learning system	<p>“Other financial resources are limited, it is stressful to apply for”.</p> <p>“It was mountains of money so I have to make some arrangement...it was a big stress for me, yeah”.</p> <p>“If we are talking about stress, the thing that was probably the most stressful to me was the fact that I wasn’t aware of how the system works here”.</p> <p>“I did not know how it works here, that was the biggest problem”.</p>
Adapting Student Life	<p>“Yeah I think there is an overwhelming information at the start of the program, the school needs to set up a partner so they can give us some uh information, background about how it works here”.</p> <p>“It was a source of stress, re-adapting”.</p> <p>“Adjusting to student life was stressful.</p> <p>“With regards to re-adapting to student life, you have to be prepared to do and you do it”.</p>

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