

**Midterm Report
(April 2018 – September 2018)**

Niigata, JAPAN

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**Dental Health System in Japan and Switzerland:
Differences and Similarities in Education**



INTROCUCTION

Before I will focus on the education system of dentists in Switzerland and Japan, I would like to give a short introduction of myself and illustrate why I applied for the SJCC Scholarship.

I am a Swiss-Japanese Hafu (ハーフ) and I do speak Swiss German with my father and Japanese with my mother. But unfortunately I did not have the opportunity to learn reading and writing Japanese. When I considered studying dentistry at the University of Zurich, I had the intention to attend Japanese as minor subject and to do an exchange year in Japan to further improve my Japanese. The lesson plan, however, turned out to be extremely strict and did not provide the chance to attend minor subjects. Therefore, I was looking for opportunities to go to Japan after graduation and approached several professors and lecturers.

After some search I could arrange a meeting with Prof. Iizuka in June 2016. He is Japanese and the clinic director and chief physician of the Department of Oral and Maxillofacial Surgery at the University Hospital of Bern. The University of Bern has already built a very good cooperation with the Nippon Dental University, a leading dental University of Japan. Thanks to his help I could get the offer to work and research at the Nippon Dental University in Niigata for 6 months (April 2018 – September 2018).

Based on the experience gathered and some research, I would like to give a short overview on the differences and similarities of the education system in Japan and Switzerland, with a focus on dental medicine. This report is structured as follows:

I. QUALIFICATION FOR THE UNIVERSITY	3
II. UNIVERSITY, DENTAL MEDICINE	4
II.I. Study set-up	4
II.II. Cost	6
III. POST GRADUATE EDUCATION	7
IV. PERSONAL EXPERIENCE	9
V. ACKNOWLEDGEMENT	10

I. QUALIFICATION FOR THE UNIVERSITY

The Swiss educational system varies a lot and depends on the place of residence, i.e. the canton, and typically consists of 6 years' primary school and 3 years' secondary school, which are compulsory. The vast majority of scholars attend to public schools in Switzerland, private schools are not very popular as the quality of public schools is considered to be very high. The secondary school is mostly divided into three levels (Realschule, Sekundarschule and Gymnasium). The higher level (Gymnasium) is organized to prepare for the Matura, which is an exam that permits the entry to University. Public schools are basically for free, Gymnasiums typically levy a fee of a few 100 CHF per semester. The University in Switzerland and the subject can be chosen freely. An additional entry exam (numerus clausus) is required only for the subjects Medicine, Chiropractic, Dental Medicine and Veterinary Medicine, since the amount of study places are limited. The expense for the numerus clausus amounts to about 200 CHF. ⁽¹⁾

The “shōgakkō = primary school” (6 years) and the “chūgakkō (中学校) = lower secondary school (3 years)” is compulsory for all children in Japan. Even though the “kōkō (高校) = upper secondary school” (3 years) is not compulsory, over 94% attend the upper secondary school.

⁽²⁾ The public and private upper secondary schools are ranked and an exam has to be taken to attend the school. The job prospect and the further education depends on the school attended, for that reason many students do attend “Juku (塾) = private supplementary classes” after the regular classes in order to prepare for the entrance examination. ⁽³⁾

After graduation of the kōkō a “center shiken (センター試験) = national center test for University Admissions” is required to apply for the University. This exam is the same nationwide and is carried out in different cities just once a year. Depending on the targeted University and subject, discipline-specific exams are required. The cost to take the exam for three disciplines is about 18'000 JPY (≈ 160 CHF*). ⁽⁴⁾

The admission criteria vary depending on University and Universities require different minimum scores at the center shiken. If the minimum score is accomplished, the student can apply for the University specific “nyugaku-shiken (入学試験) = entrance examination”. Students with outstanding results at the center shiken can be accepted at some Universities without additional exam and they can also apply for scholarships.

⁽¹⁾ https://www.sso.ch/fileadmin/upload_sso/1_SSO/8_Berufsbilder/SSO_Zahnmed_Abstract_dt_GzA.pdf

⁽²⁾ <https://wenr.wes.org/2005/05/wenr-mayjune-2005-education-in-japan>

⁽³⁾ <https://www.ericdigests.org/1997-4/daily.htm>

⁽⁴⁾ <https://manabi.benesse.ne.jp/parent/okane/01/>

* 100 JPY = 0.86 CHF

Since the University exams are difficult and hard to pass, many students do apply for different Universities. The examination fees differ depending on University and the student must coordinate the dates well. The exam must be taken normally at the University they apply to, hence the travelling expenses should not be underestimated and the hotels near Universities are quickly fully booked on exam date.

If the student passes the exam a “nyugaku-kin (入学金) = matriculation fee” must be paid within a tight enrollment deadline. It is often unavoidable to pay for different Universities since the exam results are announced on different dates. The nyugaku-kin for national dental Universities is about 820'000 JPY (=82 万円, $\approx 7'100 \text{ CHF}^*$) and 5'280'000 JPY (=528 万円, $\approx 45'400 \text{ CHF}^*$) in average for private dental Universities.⁽¹⁾

Table 1: Comparison of the enrolment fees for Dental University of Switzerland (numerus clausus) and Japan (center shiken + nyugaku-kin). (100 JPY = 0.86 CHF)

Switzerland	Japan: national	Japan: private
$\approx 200 \text{ CHF}$	$\approx 840'000 \text{ JPY}$ (84 万円)	$\approx 5'300'000 \text{ JPY}$ (530 万円)
$\approx 23'000 \text{ JPY}$ (2 万 3 千円)	$\approx 7'300 \text{ CHF}$	$\approx 45'600 \text{ CHF}$

II. UNIVERSITY, DENTAL MEDICINE

II.I. Study set-up

Dental medicine can be studied at four different Universities in Switzerland: Universities of Basel, Bern, Geneva and Zurich.⁽²⁾ The study is organized as follows:

- 3 years Bachelor program (undergraduate)
(the first 2 years thereof together with human medicine)
- 2 years Master program (graduate)
- State examination in Dental Medicine

After the two years of basic medical knowledge like anatomy, physiology or cell biology, the following study is more focused on specific knowledge of dental medicine. From the third year on the students learn basic dental treatment with a phantom head. From the fourth year on the students are grouped in teams of two students each, who work together. The teams are responsible for their assigned patient. With the support of a mentor the students do have the chance to not only learn the theory, but also obtain practical skills.

⁽¹⁾ <https://igakubu-db.com/歯学部/dental-tuition/>

⁽²⁾ https://www.sso.ch/fileadmin/upload_sso/1_SSO/8_Berufsbilder/SSO_Zahnmed_Abstract_dt_GzA.pdf

* 100 JPY = 0.86 CHF

In Switzerland the average age of the students graduating dentistry is 26,4 years and the percentage of women studying dental medicine has raised to over 60% in 2016 (19% in 1990).

(1), (2)

Nationwide there are 29 Dental Universities in Japan to study dental medicine, of which 11 are national and 18 privates. It takes a minimum of 6 years to become a dentist in Japan, after passing the entrance exam of the University.⁽³⁾

Due to Japanese laws, students are not allowed to treat patients before passing the national exam. Therefore, they learn the basic skills with a phantom head and have the chance to observe and assist treatments during the study.

According to the Tokyo Medical and Dental University women studying dentistry is around 45% at their University in 2018.⁽⁴⁾

In the past Latin was a mandatory subject for medical studies in Switzerland, since a lot of medical terms are based on Latin. The medical terms used in English language are derived from Latin expressions as well. For example, the medical term for inflammation of the sinus is "sinusitis" in English. In German it is called „Sinusitis“ as well, even though a German word exists (Nasennebenhöhlenentzündung) the medical term is usually used between medical professionals. Other examples are "sinusite" in French and "sinusitis" in Spanish. The Japanese doctors do usually use the Japanese translation, which is "副鼻腔炎 (*Fukubikūen*)". Some Dental Universities in Japan have German as a mandatory subject, but only very basic conversation is taught and Japanese is used for almost all medical terms. Therefore, it is quite demanding for the Japanese to read scientific journals which are generally written in English.

To obtain the Master degree in Switzerland, the students do need to do some scientific research about a subject chosen by themselves, whereby many students do submit their work to a journal for publication. At the Nippon Dental University, it is not mandatory to do scientific research during the undergraduate time and is typically only required during postgraduate education.

(1) <https://www.swissdentaljournal.org/magazin/artikel/zahnaerztinnen-auf-der-ueberholspur.html>

(2) <https://www.bag.admin.ch/bag/de/home/service/zahlen-fakten/statistiken-berufe-im-gesundheitswesen/statistiken-medizinalberufe1/statistiken-zahnaerztinnen-zahnaerzte.html>

(3) <https://www.jda.or.jp/en/introduction.html>

(4) http://www.tmd.ac.jp/english/outline/statistics/fiscal_year_2018/students_2018/index.html

The IUSOH (International Union of Schools of Oral Health) was founded by the Nippon Dental University and the School of Dentistry at the University of Michigan in 1985 and meanwhile 15 other Universities are participating in this foundation. The aim of the union is to strengthen the relationship between the institutions over the world and to enable the exchange between those Universities.⁽¹⁾ During my time at the Nippon Dental University, two students from the University of Manchester and six students from the University of British Columbia had the chance to visit the Nippon Dental University in Tokyo and Niigata for two weeks. Some students from the Nippon Dental Universities had the chance to visit their universities in exchange.

The elective year in the Swiss medicine study provides the students with the opportunity to gain experience in different subjects and places for a year. Unfortunately, this kind of experience is not possible in dental medicine, due to the different study set-up.

II.II. Cost

The study expenses in Switzerland are mostly covered by the government; as a consequence of this the tuition fee is only about 1'500 CHF (174'000 JPY* (17 万円)) per year for all subjects. Whereas the Matura or equivalent diploma do allow applying for any subject, the number of students is limited for medical studies as already mentioned above. For dentistry, the number is limited to 167 students for the year 2018/2019.⁽²⁾

The reason that the access to medical studies is limited can be explained by the high cost.⁽³⁾

During dental studies additional cost can occur for example for clinical or technical laboratory material for about 3'700 CHF (\approx 430'000 JPY* (43 万円)) or laundry cost for about 290 CHF (\approx 34'000 JPY* (3 万 4 千円)) by the example of the University of Zurich. Additionally, they charge 1'200 CHF (\approx 140'000 JPY* (14 万円)) for exams over the five years and a national exam has to be taken for 1'700 CHF (\approx 200'000 JPY* (20 万円)) at the end to become an approved dentist. Thus the overall cost to study dentistry is about 15'000 CHF (\approx 1'744'000 JPY* (174 万円)) (Tuition fee \approx 7'700 CHF, material \approx 4'100 CHF, exam fees \approx 3'400 CHF) in total per student for 5 years).⁽⁴⁾

⁽¹⁾ <http://www.ndu.ac.jp/en/iusoh/index.html>

⁽²⁾ <https://www.swissuniversities.ch/de/services/anmeldung-zum-medizinstudium/statistiken/aufnahmekapazitaeten-20182019/>

⁽³⁾ <https://www.bfs.admin.ch/bfs/de/home/statistiken/bildung-wissenschaft/bildungsindikatoren/bildungssystem-schweiz/themen/investitionen-und-kosten/kosten-pro-student-uh.html>

⁽⁴⁾ <https://www.zzm.uzh.ch/de/studenten/zahnmedizinstudium/kosten.htm>

* 100 JPY = 0.86 CHF

Since Japan has two different University systems: private and national, the costs of the Universities differ a lot. Whereas the total cost for 6 years is around 3'500'000 JPY (=350 万円) ($\approx 30'000$ CHF*) for national Dental Universities the private Universities cost around 26'000'000 JPY (2'600 万円) ($\approx 223'000$ CHF*) in average.⁽¹⁾

The Nippon Dental University, which is a private University, do offer a price reduction for students with exceptional results in the nyugaku-shiken and do offer prize money for students with top results at their annual exam.

Table 2: Comparison of the Dental University fees of Switzerland and Japan (100 JPY = 0.86 CHF)

Switzerland	Japan: national	Japan: private
$\approx 15'000$ CHF	$\approx 3'500'000$ JPY (350 万円)	$\approx 26'000'000$ JPY (2'600 万円)
$\approx 1'750'000$ JPY (175 万円)	$\approx 30'000$ CHF	$\approx 223'000$ CHF

III. POST GRADUATE EDUCATION

After passing the national dentist exam the postgraduate students have the option to write a doctoral thesis to obtain the doctor title in Switzerland. The doctor title is not mandatory to work as a general dentist, but it is necessary to apply for specialization. Most dentists do work as assistant dentists to gain work experience while the employer has the mentor function. Usually after two years of work experience, postgraduates can to apply for a specialization and may study when accepted by the university.

Four different specializations are accepted EU-wide: orthodontics, oral surgery, periodontology and reconstructive dentistry. These specializations take about 3 years at Swiss Universities. The postgraduate students do generally get an income, which can vary depending on University and field of specialization (for example around 80'000 CHF ($\approx 6'700$ CHF/month) ($\approx 9'300'000$ JPY* (= 930 万円)) $\approx 775'000$ JPY/month (= 77 万 5 千円/month) for a specialization in the field of reconstructive dentistry at the University of Zurich.

Further advanced educations are available and accepted by the Swiss Dental Association (SSO): endodontology, implantology, preventive and restorative dentistry, pediatric dentistry and general dentistry.⁽²⁾

⁽¹⁾ <https://igakubu-db.com/歯学部/dental-tuition/>

⁽²⁾ <https://www.sso.ch/sso/berufsbilder/zahnaerztin.html>

* 100 JPY = 0.86 CHF

In Japan the students do not need to do write a scientific research paper to be accepted to the national exam and they do automatically get the doctor title after passing the national exam, without publishing a scientific paper in a renowned journal. Since the students do not have the chance to perform any treatments during the time at the University, postgraduates normally gain their practical skills during one year at an academic institution, where they do have a chance to gather experience also in different fields. During that year, they do receive an income, which for example at the Nippon Dental University in Niigata is around 120'000 JPY (=12 万円) (≈ 1'000 CHF*) per month.

In contrast to Switzerland, the dentists in Japan do have an opportunity to do a specialization in dental anesthesia. In Switzerland, this education is only permitted for students, who have studied human medicine. The dentists specialized in dental anesthesia can perform intravenous sedation, as well as general anesthetics.

Furthermore, dentist in Japan can specialize in Oral and Maxillofacial Surgery. A specialist in Oral and Maxillofacial Surgery can treat tumor, fracture and other complex cases in the facial field. In Switzerland, this specialization is only possible for persons, who have passed the national exam in dental and human medicine, which takes a minimum duration of 9 years. After the national exam, a specialization in the field of Oral and Maxillofacial Surgery is required (around 6 years). That means that it takes about 15 years in total Switzerland to become an Oral and Maxillofacial Surgeon in Switzerland.⁽¹⁾ During the specialization they do usually obtain an income, which is in average around 101'000 CHF per year (≈ 8'300 CHF/month) (≈ 97'000 JPY* (97 万円/month)).⁽²⁾

The specialization does take about 4 years in Japan, which means that it takes a total of 10 years. In contrast to Switzerland, the postgraduate students need to pay a fee for the specialization and do not obtain an income in general. The fees are almost the same for national and private Universities and are around 540'000 JPY (54 万円) (≈ 4'600 CHF*) per year.⁽³⁾

⁽¹⁾ <http://www.sgmkg.ch/sgmkg>

⁽²⁾ https://www.fmh.ch/files/pdf11/Erhebung_der_Einkommensverhaeltnisse.pdf

⁽³⁾ <http://www.tmd.ac.jp/admissions/graduate-school/tuition/index.html>

* 100 JPY = 0.86 CHF

IV. PERSONAL EXPERIENCE

I had the unique opportunity to gain some experience at the department of Oral and Maxillofacial Surgery at the Nippon Dental University in Niigata. The spoken and written language is Japanese. Even though I do speak Japanese fluently, it was very challenging in the beginning, since they used many medical terms in Japanese, which were unfamiliar to me. The strict hierarchy among co-workers was unusual to me as well. The responsibilities of the postgraduate students specializing on Oral and Maxillofacial Surgery were clearly defined and the polite speaking was depending on the education degree and not on the age. When comparing the education systems of Switzerland and Japan, I realized that it is very expensive to study dentistry in Japan and the Japanese parents do need to save a lot of money for the education of their children.

Niigata is not a very touristic place, hence there are not many opportunities to speak English there. Thus I think it is fantastic that the Nippon Dental University enhances the relation and foster exchange between different Universities globally. Unfortunately, I did not have an opportunity to visit other dental Universities during my study time at the University of Zurich.

One of the central aims during my stay in Niigata was to learn Kanji from the second to sixth primary grade. Unfortunately, I could not find a suitable language school, as I can speak Japanese very well, however, my writing skills are very low. Due to this situation, I could get the opportunity to focus on learning Kanji at the Dental University and thus I could use around 3 hours per day for learning Kanji. In return, I gave an English conversation class twice a week for some employees and postgraduate students. This opportunity was perfect for me, since I was surrounded by Japanese only and I could make a lot of progress in speaking and writing Japanese. Thanks to the English class I had the chance to build closer relationships, as the hierarchical system in Japan makes conversation in Japanese difficult.

My daily routine was to assist at operations or treatments in the mornings. In the afternoons I could work independently, so I used my time to learn Japanese at my desk, could work on my research or assist at treatments. Everybody was very kind and my colleagues put a lot of efforts in making my stay very pleasant. Overall, I had the unique chance to observe and assist at rare operations, perform my own research and improve my Japanese.

V. ACKNOWLEDGEMENT

I am very grateful that I could get the opportunity to be a part of the Oral and Maxillofacial Surgery team at the Nippon Dental University.

Thanks to the great efforts of Dr. Kobayashi from the Nippon Dental University, I was provided with the opportunity to stay at the University in Niigata. In addition, thanks to the recommendation of Prof. Iizuka from the University of Bern I was remitted from the registration fee at the Nippon Dental University in Niigata. However, I had to look for financing options to realize my intention.

At this point, I would like to express my great gratitude to Martin Stricker and the Swiss-Japanese Chamber of Commerce. Without their support all this would not have been possible.

The stay in Japan allowed me not only to deepen my professional knowledge or make great progress in Japanese language skills, but I also could meet many amazing and exceptional personalities and make a lot of wonderful memories.



Several individuals from the Nippon Dental University took part in making my stay in Niigata possible and valuable and I would like to take the opportunity to additionally thank to Prof. Yamaguchi, Prof. Tanaka, Prof. Fujii, Prof. Nakahara and Dr. Sawada. My final thanks goes to the whole Oral and Maxillofacial Surgery team for welcoming me with warmth and hospitality. I really do appreciate this unique experience of being a part of this team for the past six month.



Cover page:

<https://www.ebay.de/itm/4er-Set-Zahnarzt-Instrumente-Schaber-Plakette-Entferner-Zahnmedizin-Werkzeuge-/332048123988>