

The strength of evidence and its applicability depends on the quality of the included primary studies. Nowadays not all clinical issues can be answered through Systematic Reviews. In addition, the gathering of results and its statistical analysis (Meta-analysis) should be conducted only when there is similarity on the primary studies method and this is not always achievable.^{1,3} However, the primary studies' standard has improved significantly and this contributes for foremost based Systematic Reviews.

Therefore, the physician has his decision-making simplified by aggregated figures and the analysis of scientific information at the highest level of evidence for this purpose, in a systematic way, following analysis guidelines and the evaluation of included surveys. Nevertheless, the critical assessment of these reviews is also required, and modifications of conducts or the establishment of protocols should be grounded in well-outlined researches, rigorously conducted and with a sufficient number of high-quality studies included.

At the moment, the discussion around Endodontics is one concentrated in the proper diagnostic, the excellence of the treatment performed and, mainly, the recovery and maintenance of the patient's health. There is no longer space for philosophical passions, practices based on empirical personal experiences or "guesswork". The clinical interventions must be guided by current scientific knowledge. The Systematic Reviews present themselves as an essential resource for the decision-making in our field of expertise and for the pursuit of a consensus: the patient's welfare.

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An interview with

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Training in teaching and research in Endodontics.

- » Graduated in Dentistry from the João Prudente Dentistry College in Unievangélica University based in Anápolis, Goiás State (1983).
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Interviewer

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1) I would like to start this interview by asking you to tell us more about your academic background.

My mom was a Normal School (secondary school with teacher training programs) teacher and my father was a farmer, so I learned from a young age to appreciate studying. I was taught to read and write by my mother, Maria Silveira Estrela, who was also my teacher. I attended elementary and high school at Marista School, where I have great memories. I started my academic activities working as a tutor in college, in a tutoring program at the João Paulino Dentistry College, currently Unievangélica, while I was studying there. I worked as a tutor in areas such as Radiology, Endodontics, and Surgery. Endodontics has always been my first option.

At the beginning of my academic life, I had a really memorable moment while I was attending a course in 1982, which was led by Professor Roberto Holland. I was very excited because all of his teachings were based on studies that were published in the current impact. "One day I will befriend this professor", I thought. Back then, I didn't know that I had made a friend for life. I worked as a dentist in Brasilia for a year at the Comando Naval Hospital in 1984. I also attended a course in Endodontics Specialization at the Odontology Brazilian Association between 1986 and 1987. Back then, it was necessary to be registered for at least 2 years in the Contract Research Organization (CRO) in order to attend any specialization. Between 1987 and 1988, I was attending the Master's Degree Program at the Odontology Course in the Federal University of Pelotas, located in the state of Rio Grande do Sul, I had Ibsen Wetzal as my mentor. In 1990, I started teaching Endodontics at the University of Cuiabá, in the state of Mato Grosso. I enrolled in the Endodontics Doctoral Program in the Odontology University of São Paulo, where I had Hildeberto Francisco Pesce as my mentor in the years of 1992 and 1993. I was approved in the public tender as a Temporary Lecturer in the Dentistry School of the Federal University of Goiás in 1993, where, in the following year, I became an Adjunct Professor. In 1995, I came to be a Titular Professor, which is my current job. I have been teaching in the course ever since. In 1997, I had the opportunity to participate in the Free-Docency tender at the Odontology College of Ribeirão Preto at the University of São

Paulo, which I had already known since 1993 due to Professor Jesus Djalma Pécora, the place where to this day I do carry out researches. I am so grateful for all the things I've learned from my mentors and professors, who helped and supported me in everything I know about Endodontics and also life. Ibsen Wetzal Sthepan, Lili LueschkeBammann, Hildeberto Francisco Pesce, Roberto Holland, Jesus Djalma Pécora, Hélio P. Lopes, among others, you are all very special to me and I am so thankful for having you in my academic journey.

2) Which research area do you work in?

When I was a college student, I worked in some basic areas such as Microbiology, Chemistry and Pathology. All this work was really useful for my clinical research. The biological training was very helpful in many of my studies, I took part in the research directory of Oral Biology, which had CNPq as the responsible body of it. Microbiology was relevant as I had really great training from the professor Lili Bammann, who teaches at the Federal University of Pelotas, also because I had the experience of practicing the basic knowledge of the area in the clinical environment. Some relevant studies were performed, such as the action mechanism of calcium hydroxide, action mechanism of sodium hypochlorite, a pioneering study on the similarity of Portland cement with MTA, biofilm demetallization, among many others; apart from book chapters published in Portuguese, Spanish and English.

In the physical-chemical area, many studies have been performed in cooperation with Professors J. D. Pécora and Manoel D. Sousa-Neto from the Dentistry School of the University of São Paulo. Diagnosis is also a research area, in cooperation with many pathologists friends, both in endodontic and non-endodontic lesions. We've been studying the role of stem cells in the periapical lesions since 2014. The impact of cone-beam computed tomography on decision making in the endodontic clinic is another research line that we have worked a lot in. All the studies were carried out with a professor from CROIF in Cuiabá, Mike Bueno, who is an old friend of mine. Several methodologies have been presented with these studies. There are also initial studies led with the CBCT software, developed by the CDT with Professor Mike Bueno. This software has important potential applicability in Endodontic Clinic. Besides the technological innovation research lines, we

have also kept studies in the Clinical Area, involving strategies for Sanitation, Root Canal preparation as well as Dental materials as MTA, bioceramics and so on. All the mentioned studies were gathered in many editions of the book “Endodontic Science”, published in Portuguese, Spanish and English. This content had the participation of endodontics emeritus professors and supporters.

3) You are a tenured professor in both undergraduate and graduate programs. In your opinion, what is the desirable profile for this position?

My first teaching contact was during my Master’s program. New knowledge and competency came gradually, bringing along the position of professor in the university. Since the beginning, I’ve always tried to understand the global learning process, considering the knowledge building through research, in order to transmit it through the teaching process, this way the cycle could be completed. Focusing on this context, I also sought the understanding of the Teaching, Research and Extension process. However, Knowledge and Competency should not be seen as synonyms. Both of them must be seen as two relevant different traits that a professor should have for teaching. After all, a really important understanding concerns to the fact that a university does not always have professors with real involvement and mastery in all competencies. It is common to have activities demanding a general activity of the professional, including all the functions such as Teaching, Researching, Extension and Management. In this way, the educator can develop many skill levels and various competencies. A professor can also show different knowledge and competencies in order to develop his/her skills in the programs he/she works in. The skills’ levels are important within the process, but the biggest point is linked to the quality human sources, which the professional should care for. Each one of the situations mentioned above are important in a professor’s career. A professor’s career is divided into parts, being a mission in science and technology, which lenses the contact with the human sources in the post-graduation, graduation and extension programs.

In my journey as a professor, I have realized some points that are really relevant in this positions, such as Research (construction), Teaching (transmitting) ,

Extension (Acting) and Management (coordination of people and structure).

For all that, the learning strategies analysis and research methods led us to a group of researchers, from distinct areas of knowledge and research lines, to coordinate the book of “Scientific Methodology”, which had the participation of more than 70 professors from all over Brazil. Nowadays, aiming at the reflection towards the quality life of the human beings, which is only reached when a person starts knowing himself/herself deeper, I have just finished writing the book “Keys to the mind”, published as an e-book on Amazon.

These thoughts analyze the profile of a professor to act in the undergraduate and graduate programs, which should also include the following characteristics: knowledge and strategies competencies in the learning process, as well as traits like initiative, autonomy, character, innovation, creativity, balance, good sense and self learning process understanding.

4) What is the biggest challenge for a college professor in public education in Brazil?

The biggest challenge for a college professor in public (and also private) education, in Brazil, is starting your career with all the knowledge about what is college, from its true meaning of standard graduation in human resources, and postgraduate levels. In the same way, managers from public and private education should also have the same level of knowledge. Maybe the most appropriate way would be starting your career in the reverse teaching method (related to the reverse classroom analogy). Teachers should get into college with all the knowledge and ability that (s) he would have when concluding his college cycle. Due to this responsibility, this person should have the ability to not waste time to learn how the system works in college.

Another substantial challenge is to be open for changes during the academic life because, by doing so, it is possible to transform those around you - students, coworkers or managers, and the eminent. Other generations, and the one that I belong to, are changing constantly and very fast, and this new changes affect me directly.

The third edition of the scientific methodology book preface reflects the theme “Professor, researcher and father, the eternal mission.” The main problematic was

to understand how to perform the three of them on the same level of importance without resulting in any kind of loss. The biggest challenge is to grow every day, as you continue to work hard, learning and helping those around you; not only in the scientific context, but also showing the experiences that were really worth it, as well as those that were not that much. A human challenge, as a professor nowadays in public education, it is to be brave enough and admit that it was worth being a professor. To happily show all my disciples, and see happiness in my family and children's eyes, because I haven't abandoned them, neither when they most needed me or when I most needed them, seeing that I have dedicated a lot of time to study, search and work. I say with joy: It was worth it. I learned to understand that the biggest challenge is to accept self-transformation.

5) What are the main changes that happened in graduation and post-graduation teaching, since your graduation to nowadays?

One of the main changes was going through the industrial revolution, and suddenly living an information revolution. That referential of obtaining a university education, which brought a dubious sense of mastery of a knowledge, ceases to be the ideal for the acquirement of information that might differ the person as to the required skills for proposed activities. The motivation associated with a word that, nowadays, we are not hearing very often – passion – it has consisted of prerequisites to choose the course and your specialization in post-graduation studies.

The search for being a competent professional and, at the same time, conquering a decent professional life, thrilled young people to dedicate and invest a lot in studying in order to succeed in life. The acquisitions built up within a sense of a sequence, without skipping main steps, are fundamental to the learning process, such as: the achievement of knowledge-based clinical skills, psychomotor skills and training during the specialization course, followed by clinical experience; the pursuit of teaching domains in the master's course; and the exercise of creativity in research (in doctor degree). A warning should be made so that there is no hindrance in academic formation, because the know-how to teach correctly is within the logic of the training process.

Another challenge and current care is to know how to filter the amount of superficial information that has been transiting the different levels of education, and communication tools. Therapeutic protocols should be maintained based on clinical evidence of provenance, and not only guided by interests that are exclusive to the principles of good scientific practice. A so-called "independence" coupled with fragility in young people's frustrations, unique contextual, and scientific maturity, constitute an important risk factor for the excellence of the achievements of the specialty.

6) What is your opinion about the new integrated curriculum, which promotes a reduction in the workload of professional subjects? In addition, what is the impact on teaching the discipline of Endodontics?

An interesting aspect is the integration of content, not just physical space. For example, for undergraduate students, it is essential to understand a classification of pulp inflammatory changes (not many, depending on the education of the teachers) and of the different disciplines that present the same content in their plans. Another factor that is being revised is a readjustment of the curricular structure with workload compatible with its needs. In many courses, the NDE has accepted changes in the workload as requested by the teachers of the disciplines involved. In our course, we were able to adjust the workload compatible with the needs of the discipline of Endodontics. One way to minimize greater impact is the extension project; however, it is not accessible to all students because of the time mismatch and a different characteristic. Teachers, together with students, should clarify to managers and coordinators the needs of content compatible with the workloads.

7) How do you see the required workload of Lato sensu education? Does it contemplate the need for training a well-trained specialist?

A concern in specialist training is about a course project that can cover all the necessary content and clinical skills training for the correct practice of the specialty. At the end of the course, the professional must have the ability and competence to perform all clinical procedures related to endodontic therapy, and also, this professional must know about related areas, for a correct indication of complementary procedures. Certainly, not only the workload must be reviewed but

also the course design and the necessary skills of the professional specialist concerning the market needs. Moreover, the responsible institution, faculty members and coordinator must show all requirements to provide a quality course that truly empowers the professional.

8) Today, there is a trend for distance learning in some health fields. What is your opinion about distance learning at the undergraduate and postgraduate levels in odontology?

The odontology course involves skills and competencies that imply clinical training (with psychomotor skills). The distance-learning model as a better strategy for the learning process within the required competences does not apply here. In the same vein, teachers and laboratory researchers need to be in a classroom environment. Otherwise, when they face the first visit in these environments, they can be frustrated and confused. Therefore, psychomotor and cognitive skills continue integrating the necessary contents for the dental professional formation, as well as in the postgraduate level.

9) Today, some professionals have sought short (immersion) courses rather than specialization courses. What is your opinion about these courses in odontology and, more specifically, in Endodontics?

Permanent improvement after graduation training can be accomplished through different course modalities, which depends on the professional needs and intentions. An immersion course will never replace a specialization course. This modality can be useful for professionals or specialists who are seeking for specific improvement and innovating aspects in this area.

10) Regarding stricto sensu post-graduation, how should the educational design of master and doctorate courses be? What should each of them contemplate?

In that case, an attitude that is expected from a professor is that he/she must be prepared for all the challenges related to teaching. Therefore, in master's degree courses, teaching formation competencies are highlighted. Furthermore, in the doctorate course, in addition to autonomy and critical analysis, the student must focus on acquiring research skills, especially mastering research methods designed to answer problems created.

11) If you could give some advice to all college professors who are starting their careers, what would you say?

Giving a piece of advice to college professors at the beginning of his/her career is something complex, as each one has had a unique life and experiences to this point. Nevertheless, I will list some qualities that can favor young teachers' trajectory:

1. Autonomy – Autonomy in the learning process and live happily is essential. No one will be responsible for your own failure but yourself. Always choose success. Men can learn by themselves in groups and with a master. Predisposition and autonomy represent strong components. Be open to opportunities. Concerning the problems on your path that you will have to overcome during your life - either you took part in their initial edification or you need them for your own growth. Never complain about life, always choose to learn from it.

2. Changes – Daily changes are part of human nature. Always be ready for them. Never say that you are doing the same things as you used to do thirty years ago. Always be open to new opportunities in life.

3. Initiative – Initiative is essential, as you will never satisfy someone's hunger by feeding yourself. Take the lead in order to change your life for better, in your work environment, at home. No one can change anyone. Going to work willingly and feeling good for being around your colleagues brings comfort and a good prospect for growth.

4. Belief – Each one must build your own story. Believe and look forward to it. Learn how to be your true self and to love what you do. Be yourself.

5. Creativity – create, acknowledge the truth of the facts, experiment, learn and live happily.

6. Communication – Each one has relationship potential. In any human activity, a clear, frank, and well-presented communication constitutes in a refinement of balance, posture, and intelligence. You acquire or fail with poor communication. Learn how to communicate. You will not regret it.

7. Dedication – In everything you do, work hard, engage yourself in challenges and have knowledge about the entire situation. Dedication strengthens skills enhancement.

8. Confidence – Believing in professional success must be the secure foundation and the light to guide