

ACTIVE TEACHING METHODOLOGY AND PROMOTING THE AUTONOMY OF MEDICAL STUDENTS AT UNISALESIANO OF ARAÇATUBA – SP

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Research approved by CEP (Research Ethics Committee)

We declare that there is no conflict of interest

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Abstract: In recent decades, the pedagogical area has experienced fundamental transformations aimed at adapting professional training to the contemporary world. The development of teaching-learning methodologies characterized by electing the student as the center of concerns and as the main and paradigmatic focus of this transformation is one of the main characteristics of this methodology. The transformation of the teacher, previously an indisputable authority, into an actor with a *status* similar to that of the student is a new reality still under construction. The results of a descriptive and exploratory investigation are presented, evaluating the potential regarding the process of building student autonomy in the graduation Medicine course at Unisaesiano de Araçatuba - SP. The main research instrument was a self-administered semi-structured questionnaire answered by students who completed two semesters using the active teaching and learning methodology adopted by the institution. The results obtained allow us to conclude that students are well receptive to the method and that the adopted model has potential to fully achieve the objectives of the active pursuit of student autonomy during graduation and, possibly, in future professional practice.

Keywords: medical education; professional autonomy; active learning; personal autonomy.

INTRODUCTION

To the extent that the process of transmitting knowledge can no longer meet the objectives of universities in the contemporary world, since the student needs to develop critical capacities and skills in order to follow the contexts of challenges and social changes, teachers have become link between the educational institution and the student given the responsibility for implementing

pedagogical proposals and teaching strategies¹.

In this context, there is a need to pay attention to new methods of teaching and learning that place the student as the protagonist of their training. In this sense, active learning methodologies are based on ways of developing the learning process, using real or simulated experiences, aiming at the conditions for solving challenges arising from essential practical activities, in different contexts².

Traditional teaching methods have as their horizon the figure of a teacher who is the absolute holder of the knowledge that will be transmitted, regardless of the interest and participation of his students. In the traditional method, lesson plans are prepared in advance by the teacher, respecting their form, exposure time and content, a fact that compromises the space allocated for the student to participate and make their thoughts. In this scenario built on this traditionalist method, questions, discussions or diversifications about the topic under study become scarce and decontextualized, leaving students with their hands tied in the search for autonomy in their learning³.

In opposition to this method of teaching, active methodologies emerge, which bring a new way of developing the process of teaching and learning with the aim of instigating and developing the critical training of future professionals in the most diverse areas. By using these methodologies, the teacher will, theoretically, be stimulating the student's autonomy, awakening curiosity and encouraging decision-making, both individually and collectively, whether they come from social practices or in the student's context³.

THEORETICAL FOUNDATION

Reeve⁴ states that students who feel autonomous in their academic activities demonstrate highlights in several activities: motivation, engagement, development, learning, improved performance in grades, better psychological state (presenting indicators of well-being, satisfaction with life and vitality).

It also emphasizes didactic paths for the teacher to follow a route to the emergence of attitudes that promote students' autonomy: the teacher must adopt the student's perspective, must welcome their thoughts, feelings and actions and always support development through attitudes, emotional and capacity for self-determination.

In recent years, active methodologies have started to be used in medical graduation in specific specialties in teaching pediatrics⁵ and also in continuing medical education, for different specialties, such as pediatricians⁶. Both texts conclude that the use of active methodologies can also be good options in the training and education of specialists.

The need for pedagogical changes imposed by the post-modern reality is well evidenced in the vision of two fundamental authors for a constructivist vision of active teaching methodology – Knowles and Edgard Morin.

Malcolm S. Knowles (1913-1997) was an important American educator. He is considered a central author in the area of education in the second half of the 20th century and the main theorist responsible for disseminating the concept of andragogy (adult education)⁷.

For Knowles, it is essential that the educator realizes that experience is the most important source for adult learning. Experienced needs are the origins and motivations for learning.

The andragogical model is based on the following pillars:

1. Need to learn;
2. Learner's self-concept;
3. Role of experiences;
4. Readiness to learn;
5. Guidance for learning;
6. Motivation.

The concept of andragogy received several criticisms and Knowles himself had to review his positions in order to accept the concept that pedagogy-andragogy represents a natural continuity in the education of people and that both activities are appropriate for children and adults, depending on the context of the teaching and learning. It is now accepted that learning characteristics are not only related to age, but also and mainly to individual traits and differences in context and power.

Edgard Morin is an important author who has a great influence, albeit indirect, on the pedagogical changes that occurred in the 20th century. Complexity theory, born in the natural sciences and abandoned for decades, is rescued by the French philosopher with a conceptual expansion, still in full development today.

In his work

*“Introduction to complex thought”*⁸

the philosopher questions:

- *What is complexity?* and conceptualizes:

“ At first glance, complexity is a fabric (complexus: what is woven together) of heterogeneous constituents inseparably associated: it poses the paradox of the one and the multiple. Secondly, complexity is effectively the fabric of events, actions, interactions, feedback, determinations, chance, which constitute our phenomenal world”.

Sales and Matos⁹ interpret and discuss Morin's vision in current pedagogical thinking stating:

“Complexity is the possibility of expanding our thinking about the world and life by solving our biggest challenge – facing the fragmentation of human, scientific and technological knowledge”.

“People are unfinished beings and are constructed throughout their lives. We note here the importance of thinking from the perspective of human complexity, since they are biological and cultural beings”.

Regarding the concept of human autonomy, Morin states that autonomy depends on social and cultural circumstances, and is therefore complex.

To reflect autonomously, a multitude of conditions are necessary so that we can be ourselves. Among them we can highlight: learning a language, a very varied culture, as well as knowledge so that we can choose, from the tangle of ideas, our own and unique way of reflecting autonomously. And he completes his thought by citing the importance of genes and our dependence on them ⁸.

Transdisciplinarity and complexity in the medical curriculum gain fundamental space in current pedagogical reflection. For the adequate understanding of a non-reductionist reality, fully open to the construction of knowledge, the student must be offered the opportunity for an expanded health vision, which values social determinants in the perfect understanding of the health-disease process ¹⁰.

The bioethical principle of autonomy is now consolidated in medical teaching and practice, whether through traditional teaching methodology or active methodologies.

Although ethical reflection relating to the concept of autonomy has been discussed and reflected on since the Enlightenment (18th century), in medical practice it was only consolidated after the publication of the work *Principles of Biomedical Ethics* by Beauchamp and Childress ¹¹.

Since that publication, a huge change has occurred in medical teaching and practice. In the 80s and 90s of the last century there was an important development in bioethical reflection, mainly in Medical Ethics and Clinical Bioethics, establishing the concept

of Principialist Bioethics (autonomy, non-maleficence, beneficence and justice), with a strong influence on practice. professional doctor.

The impact of the practical application of the concept of broad autonomy for patients and health professionals caused a paradigmatic change in the doctor-patient relationship. One of these fundamental changes was the increase in ethical conflicts in medical practice, justifying the progressive need for ethical reflection in professional practice and, consequently, in medical education ¹². Medical Ethics and, especially Bioethics, have gained progressive prominence in health curricula over the last three decades.

Evidently, given the current scenario, the question that requires positioning and reflection is whether the active teaching and learning methodology is suitable for teaching and reflecting on Medical Ethics and, mainly, Bioethics, in graduation and post-graduation studies in the area of health.

For Parker ¹³, ethical and bioethical teaching and reflection are definitely adequate and must gain prominence in the programmatic content in the curricula and in practice in the active teaching methodology, mainly in PBL (Problem-based Learning), the most consolidated method with greatest academic basis today.

Highlights and justifies the importance of ethical reflection and the concept of autonomy in the PBL methodology:

“I argue that PBL is a desirable method for teaching and learning Medical Ethics. It is desirable because the nature of ethical research is highly compatible with the teaching process that characterizes PBL ¹³”.

Freire ¹⁴, in his work *Pedagogy of Autonomy*, addresses and encourages a critical pedagogical stance, with the rejection of any form of discrimination, such as assuming ideological aspects, critical reflection on

educational practice and, mainly, the absolute respect for autonomy in its broader way.

To this end, the author uses as a guideline for the text a critical analysis of the pedagogical methodology from the perspective of the autonomy of teachers and students, highlighting the importance of integration and relationships between these actors:

“There is no teaching without learning”

and adds:

“The incompleteness of which we become aware makes us ethical beings. Respect for the autonomy and dignity of each person is an ethical imperative and not a favor that we can or cannot grant to each other.”

In several of his works, Professor Freire criticizes what he calls “banking teaching”, which is the traditional method of transferring knowledge from teachers to students.

According to Cohen and Segre ¹⁵ a person is not born ethical, their ethical structuring occurs along with their development.

Many believe that ethics, or the condition of becoming ethical, simply means the competence to listen to what the “heart says”. This would just be a characteristic of emotional sensitivity, reserving “being ethical” for those who have the ability to perceive conflicts between “what the heart says and what the head thinks”.

Therefore, these authors state, ethics lies in the perception of the conflicts of psychic life (emotion x reason) and in the condition, which we can acquire, of positioning ourselves, in a coherent way, in the face of these conflicts. This way we can understand that Ethics is based on three prerequisites: 1. Perception of conflicts (awareness); 2. Autonomy (condition of positioning oneself between emotion and reason, this position being an active and autonomous choice); 3. Coherence ¹⁵.

Finally, the complement of the National Curricular Guidelines (DCN) published in 2014, reinforced the need to train critical,

reflective and autonomous doctors. The possibility of medical students becoming more aware of social problems and their approach to the Unified Health System (SUS) increases considerably ¹⁶.

Given this theoretical foundation, it is necessary and necessary to evaluate the possibility of students on the Medicine course at Unisaesiano de Araçatuba - SP feeling autonomous to learn and, more importantly, a personal assessment of the possibility of the method facilitating or developing autonomy in future medical professional performance.

METHODOLOGY

The methodology adopted was the quantitative and qualitative approach.

This is a study with a descriptive and exploratory technique.

The data were analyzed quantitatively and qualitatively.

The choice of this methodology is justified in view of the scope of this research being the evaluation of the influence of the active learning methodology on the training and construction of autonomy of students at *Unisaesiano de Araçatuba* (medicine course), in São Paulo, both in relation to the moment of studies at time of the research, as well as in relation to future practice.

The technique used in the qualitative approach was the “categorization of responses” and the partial use of the DST – Collective Subject Discourse – which allows the construction of distinct collective subjects through the analysis of individual responses and the construction of central ideas ¹⁷.

This methodology expands the concept of “response categorization”, classically used in quantitative research. DST adds discursive and argumentative content by bringing together, in a synthetic speech, key expressions and central ideas.

The instrument chosen for data collection was a self-administered questionnaire, prepared by the authors for the present study¹⁸.

An attempt was made to develop a relatively small questionnaire, with 15 items, with multiple choice questions, therefore “closed”, and some “open”, seeking details and giving the respondent the opportunity to express their opinion on a given topic.

The study does not aim to form a representative sample of students studying Medicine using active methodologies nor to generalize the data obtained.

The scope of the questions proposed was to obtain data in accordance with the objectives of the present study – to evaluate the influence of the active learning methodology in the formation of autonomy of students on the Unisalesiano Medicine course and future possibilities of autonomy in professional practice, in addition to evaluating the quality of the methodology in the students’ view.

PARTICIPANTS

The body of research participants was made up of students from the Unisalesiano Medicine Course in Araçatuba – SP. Students who completed the second semester of the course were selected. All attended high school through traditional methodology.

Respondents were randomly numbered from 01 to 48.

The Faculty of Medicine of the Unisalesiano of Araçatuba SP began its activities at the beginning of 2018. It uses an active mixed teaching-learning methodology. In the first two semesters, students follow the curriculum using primarily PBL (Problem-based Learning), TBL (Time Based Learning), traditional conferences and games.

The research protocol was approved by the institution’s C.E.P. (Research Ethics Committee) and all participants signed the ICF (Free and Informed Consent Form).

RESULTS AND DISCUSSION

The total number of students who completed the second semester of the Medicine course is 61. 48 students voluntarily participated in the research. Thirty students were female (62.5%), eighteen were male (37.5%); the average age was 19.7 years old and all students (100%) completed the second semester of the course.

1. What are your expectations when starting the Medicine course studying through an active teaching methodology?

Evaluating the responses, it can be concluded that there are two key expressions that predominate: expectation for autonomy and improved communication.

The word autonomy or corresponding expression (become more independent) was mentioned by five respondents (6,7,21,34,36).

*“You have more **autonomy** during training, in addition to developing good clinical reasoning from the beginning of the course”* (respondent 21).

*“You have greater **autonomy** in relation to my studies and retain greater knowledge”* (respondent 36).

In relation to improving communication, the expression – improving shyness or corresponding (improving communication) was mentioned by six respondents (10,19,26,27,33,38).

*“Reduce **shyness** when communicating with people and patients”* (respondent 27).

*“Practical classes, overcome **shyness**, become more practical”* respondent 19.

Three respondents (12,44,47) cited the simple and objective expression – **none**.

Given this scenario, it can be inferred that the so-called key expressions demonstrate a realistic expectation from students that can potentially be achieved through the mixed active teaching and learning methodology

adopted by the institution.

2. For you, the active teaching methodology:

a) Does it promote integration between group components?

A total of 41 respondents indicated – YES (85.4%)

b) Does it encourage collaborative work?

A total of 44 respondents indicated – YES (91.6%)

c) Does it encourage discussion of topics?

A total of 48 respondents indicated – YES (100%)

d) Does it allow you to explore different solutions?

A total of 42 respondents indicated – YES (87.5%)

Evaluating the high rate of affirmative responses, it can be concluded, with some certainty, that – group integration, collaborative work, discussion of topics and the possibility of exploring different solutions – are fully met by the active teaching method., in the students' view. These goals are fundamental to the pedagogical style adopted by the institution.

3. In relation to active teaching methodology:

a) Does it encourage leadership?

A total of 41 respondents indicated – YES (85.4%)

b) Does it promote group autonomy?

A total of 42 respondents indicated – YES (87.5%)

c) Does it encourage prior study?

A total of 47 respondents indicated – YES (97.9%)

d) Does it promote a feeling of responsibility?

A total of 45 respondents indicated – YES (93.7%)

In the same sense, the high rates of positive responses regarding the possibility of achieving adequate results in relation to - leadership

posture, promoting group autonomy, encouraging prior study and promoting a feeling of responsibility - demonstrate that the aforementioned objectives have high potential for be achieved by the teaching methodology adopted by the institution.

4. In relation to your student experience with the traditional methodology, your study pace with the active teaching methodology is:

A total of 41 respondents indicated – MAJOR (85.4%); 02 respondents indicated – LOWER (4.1%); 05 respondents indicated – EQUAL (10.4%).

The high response rate considering the higher study pace in the active methodology when compared to the traditional methodology has multiple explanations and must be analyzed appropriately.

One of the most impactful causes for this view of students is possibly the assessment process.

Since its implementation, the active teaching methodology has been characterized by a broader and more frequent assessment, when compared to traditional teaching tests.

The Unisalesiano Faculty of Medicine adopts two forms of assessment – *summative* assessment (generally with two regular weekly tests in PBL tutorials) and a final test at the end of each unit and a *formative assessment* (subjective, through grades known as a rubric and with comments and individual assessment through *feedback*).

It is worth explaining here the concept of a rubric in the field of education

“an assessment tool that defines and explains learning expectations in a given subject through formal documentation known to teachers and students”¹⁹.

5. In your opinion, does it encourage your personal autonomy?

A total of 46 respondents marked – YES (95.8%) and 02 respondents marked – NO – (4.1%)

The high rates of positivity to direct questioning demonstrate that the vast majority of students agree that practicing the method, over two semesters, contributed significantly to achieving student autonomy in their graduation course.

It is worth highlighting that this high percentage of responses is quite consistent with the answers to questions 3 and 4.

6. Do tutors, in general, encourage your individual autonomy?

A total of 43 respondents marked – YES (89.5%) and 05 respondents marked – NO (10.4%)

In relation to the action of the tutors encouraging student autonomy, this high percentage demonstrates a group vision in the same direction as the previous answers, maintaining an important coherence and acceptable credibility, without incoherent answers when comparing the positions adopted by the students.

7. How much do you consider that the active teaching methodology contributes to learning in relation to your student experience in the traditional methodology?

A total of 37 respondents marked – MORE (77.0%); 02 respondents marked – LESS (4.1%); 09 respondents indicated – EQUIVALENT (18.7%).

It is noteworthy that 11 (22.9%) respondents indicated that the active methodology either contributes less or is equivalent. This percentage must be interpreted as a non-negligible part of the students, around 1/5, demonstrating a more critical stance, which is always desirable and opens up a perspective for constant reflection when comparing more

contemporary methodologies and more traditional methodologies.

8. Write, in one word, what advantage and what disadvantage you consider in the active teaching methodology in relation to the traditional one:

The analysis of the responses highlighted demonstrates two key expressions that predominate: autonomy and pressure or equivalent (tiring, exhausting, exhausting routine).

A total of 14 (29.1%) students wrote the word autonomy as an advantage of the active methodology. Therefore, around 1/3 of the students, when freely encouraged to write an advantage of the active methodology, spontaneously cite the concept of autonomy as an advantage and, again, consistency can be seen with the answers to previous questions.

A total of 19 (39.5%) of the students wrote expressions clearly demonstrating the collective feeling of pressure, exhaustion and rush.

“Having to kill myself studying” (respondent 33).

“a lot of material in a short time” (respondent 08).

“exhausting routine” (respondent 25).

In these responses, one can notice a high rate (around 40%) of feeling of pressure, of continuous and exhaustive use of time on the part of the institution’s medical student.

It is known, and medical students are fully aware, that the medical graduation course is the longest, that it is carried out full-time, that there are no evening courses and no Distance Education Course (EAD).

Furthermore, this collective vision of students raises a fundamental question: in routine meetings with student representatives, this positioning and the best path forward must be addressed and reflected on in order to mitigate this student perspective.

9. Write, in one word, what advantage and what disadvantage you consider in the traditional methodology in relation to the active methodology:

The analysis of the responses demonstrates a wide dispersion of concepts to characterize the advantages of the traditional method, but goes in the direction of **custom and security**: organization, custom, practicality, ease, ease, flexibility, less effort – all highlighted by at least two respondents.

Regarding disadvantages, the dispersion of responses is also evident, but it goes in the direction of **complacency and monotonous**: none, tiring, monotonous, boring, less interest, easier, passivity, boring.

There is a clear contrast here with the responses regarding the advantages and disadvantages of active teaching. In relation to this, the answers have a greater concentration in order to highlight a stronger and more impactful collective discourse when related to traditional teaching.

10. “It is currently considered that healthcare professionals must be qualified to seek answers to the practical questions of their profession. In this sense, the active methodology strongly contributes to the professional’s autonomy.” In relation to this statement, do you:

Analysis of the responses demonstrates the following results:

28 (58.3%) respondents indicated that – **completely agree**; 20 (41.6%) respondents indicated – **partially agree**; No respondent indicated that they – totally disagree or partially disagree.

The partial or total agreement of all students demonstrates consistency with the answer to previous questions. The fact that 41.6% only partially agreed demonstrates, in our view, a critical sense and desire to discuss this issue better, which is very desirable in the training of a medical student.

11. Considering your two-semester experience using active teaching methodology, the probability of you becoming a professional with adequate autonomy in the search for professional knowledge is:

Analysis of the responses shows that: 43 (89.5%) respondents marked – **large**; 04 (8.3%) respondents indicated – **average**; no respondent marked – **small** and 1 respondent marked – **I don’t know how to answer**.

Again, the prospect of, with the method used, achieving adequate autonomy in the search for professional knowledge, in the students’ view, is highly likely.

12. If it were possible for you to choose between staying in the active teaching methodology or the traditional method, which would you choose? Why?

Analysis of the responses shows that: 42 (87.5%) indicated – **active methodology**; 06 (12.5%) indicated – **traditional methodology**.

In view of the students’ free choice of the active methodology, this fact demonstrates, once again, consistency with the previous answers and a positive perspective of the method’s effectiveness.

When asked: **why?**

Those who chose the active methodology expressed their justification, basically citing the stimulation of learning and greater autonomy – 08 respondents (6,9,22,30,35,40,45,48).

“It promotes a greater desire to be able to learn anything alone” (respondent 09).

“It inserts you into the medical world from the beginning” (respondent 06).

Those who chose traditional methodology basically justify their identification with the method and its safety (respondents 1,4,18,36,43,47).

“brings more security in learning” (respondent 04).

“More consolidated and greater linear progression” (respondent 47).

13. Did the active methodology allow for any learning outside of the medical course?

Analysis of the responses shows that: 38 (79.1%) respondents marked – **YES** and 10 (20.9%) respondents marked – **NO**.

“Yes, with the constant search for knowledge about medicine, seeking other knowledge becomes greater and more routine” (respondent 08).

“Many contents stimulate research that takes us to other content” (respondent 18).

14. Did the active methodology arouse curiosity about unknown subjects?

Analysis of the responses shows that: 41 (85.4%) respondents marked – **YES** and 07 (14.6%) respondents marked – **NO**.

“Yes, now when I have doubts about a subject, I look for reliable sources” (respondent 09).

“Yes, especially on subjects that I like to research” (respondent 19).

The high rates of positive responses to questions 13 and 14 make it clear that these two basic objectives of the active teaching methodology present good prospects for being realistically achievable in the view of the students responding to the survey.

15. In your opinion, does the Unisaesiano medical school meet the needs of active methodologies?

Analysis of the responses shows the following results: 36 (75.0%) respondents indicated – **YES**; 07 (14.5%) respondents marked – **PARTIALLY** and 05 (10.6%) respondents marked – **NO**.

The high rate of positive responses demonstrates, in a manner consistent with all responses to the questions in the questionnaire, the demonstration of approval of the methodology established and put into

practice by the institution. On the other hand, a non-negligible percentage – 12 (25%), therefore ¼ of the respondents – criticize the method (totally or partially) and demonstrate to some extent dissatisfaction with the methodology.

CONCLUSIONS

The results obtained allow us to observe that students of the graduation Medicine course at Unisaesiano de Araçatuba are clearly in favor of the teaching and active learning methodology adopted by the institution.

It can be concluded that there is consonance and congruence between the adopted model and the process of actively seeking student autonomy during graduation and, possibly, in future professional practice.

Regarding the perception of the development of their autonomy during graduation, the students' attitude demonstrates optimism, mainly in the development of perfect communication with teachers, professional colleagues and with patients and in the adequate construction of knowledge and habit of updating within the vision of the so-called line of “learning to learn” and the role of “eternal learner”.

In this sense, it is probable and possible that the medical student on the course can acquire sufficient maturity to be able to admit the influence and importance of the vision and opinion of others and deal rationally and appropriately with the countless uncertainties of medical practice and, mainly, demonstrate competence and professionalism to deal with increasingly autonomous patients and with a growing amount of knowledge and clarification about diseases and their treatments.

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