

ARTICLE

FORMATIVE ASSESSMENT IN TUTORIAL SESSIONS: AN ANALYSIS BASED ON EMOTIONAL DIDACTICAL SUITABILITY¹²

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ABSTRACT: Formative assessment consists of a qualitative evaluation of an individual's knowledge, abilities, and competencies during a formative process. This assessment is fundamental to developing tutorial sessions in the problem-based learning methodology, which is widely used in Brazilian Medical undergraduate degrees. However, factors such as teachers' lack of knowledge and students' fear of the assessment process hinder its effectiveness. Therefore, this study analyzes how formative assessment takes place in tutorial sessions based on Emotional Didactical Suitability; that is, it intends to understand how formative assessment affects the interests, attitudes, emotions, and learning/knowledge of the students participating in the tutorial session. The informants of this qualitative research are students and a tutor of a Medicine degree at a School in the countryside of Bahia, Brazil. Data was collected through Participant Observation using structured questionnaires and the observation of the tutorial dynamic in 2021. Data analysis was conducted through the Emotional Didactic Suitability Criteria, adapted for the Medicine course, which aimed to measure how students are interested and affected in the learning-teaching process. The results point out that students and teachers still value more the summative assessment at the expense of the formative one, creating adverse behaviors toward the assessment process, such as anxiety and fear. The research also shows the importance of an assessment at the end of the tutoring to stimulate the development of abilities, attitudes, and the learning of studied content. Nevertheless, it does not follow the conventional standardization of self-evaluation, peer evaluation, tutor evaluation, and evaluation through the tutor.

Keywords: feedback, problem-based learning, criteria of didactical suitability, autonomy, emotions.

¹ Article published with funding from the *Conselho Nacional de Desenvolvimento Científico e Tecnológico* - CNPq/Brazil for editing, layout and XML conversion services..

² The Editor-in-Chief participating in the open peer review process Suzana dos Santos Gomes.

AValiação formativa nas sessões tutoriais: uma análise com base na idoneidade didática emocional

RESUMO: A avaliação formativa consiste em uma verificação qualitativa de conhecimentos construídos, habilidades e competências de um indivíduo em processo formativo. Essa avaliação constitui-se como fundamental para o andamento das sessões tutoriais, presentes na metodologia da Aprendizagem Baseada em Problemas, utilizada amplamente nos cursos de Medicina do Brasil. No entanto, fatores como a falta de conhecimento dos professores e o medo dos estudantes pelo processo avaliativo impedem que ela seja efetivada. Este estudo, portanto, visa analisar como ocorre a avaliação formativa em sessões tutoriais, com base na Idoneidade Didática Emocional, ou seja, pretende compreender como a avaliação formativa afeta o interesse, a atitude, as emoções e a aprendizagem/conhecimento dos estudantes que participam da sessão tutorial. A pesquisa caracteriza-se como qualitativa, tendo como informantes alunos e uma tutora do curso de Medicina de uma faculdade do interior da Bahia. Para coleta de dados foi utilizada a Observação Participante com utilização de questionários estruturados e observação da dinâmica tutorial no ano de 2021. A análise dos dados deu-se através do Critério de Idoneidade Didática Emocional, adaptado para o curso de Medicina, que tem a finalidade de medir como discentes se interessam e são afetados no processo ensino-aprendizagem. Como resultado, percebeu-se que os discentes e a docente ainda valorizam mais a avaliação somativa em detrimento da formativa, criando comportamentos aversivos ao processo avaliativo, tais como ansiedade e medo. Percebeu-se a importância da avaliação ao final da tutoria como forma de estimular o desenvolvimento de habilidades, atitudes e aprendizagens dos conteúdos estudados, embora ela não siga uma normatização convencional de autoavaliação, avaliação dos pares, avaliação do tutor e avaliação pelo tutor.

Palavras-chave: *feedback*, aprendizagem baseada em problemas, critérios de idoneidade didática, autonomia, emoções.

EVALUACIÓN FORMATIVA EN SESIONES TUTORIALES: UN ANÁLISIS BASADO EN LA IDONEIDAD DIDÁCTICA EMOCIONAL

RESUMEN: La evaluación formativa consiste en una verificación cualitativa de los conocimientos, habilidades y competencias construidos por un individuo en el proceso de formación. Esta evaluación es fundamental para el avance de las sesiones de tutoría, presente en la metodología de Aprendizaje Basado en Problemas, ampliamente utilizada en las carreras de Medicina en Brasil. Sin embargo, factores como el desconocimiento de los docentes y el miedo de los estudiantes al proceso de evaluación impiden que éste sea efectivo. Por ello, este estudio pretende analizar cómo se produce la evaluación formativa en las sesiones tutoriales, basada en la Idoneidad Didáctica Emocional. Es decir, se pretende comprender cómo la evaluación formativa afecta el interés, la actitud, las emociones y el aprendizaje/conocimiento de los estudiantes que participan en la sesión de tutoría. La investigación se caracteriza por ser cualitativa, teniendo como informantes estudiantes y un tutor de la carrera de Medicina de una facultad del interior de Bahia. Para la recolección de datos se utilizó la Observación Participante con el uso de cuestionarios estructurados y la observación de la dinámica tutorial en el año 2021. El análisis de los datos se realizó mediante el Criterio de Idoneidad Didáctica Emocional adaptado para la carrera de Medicina, que tiene como objetivo medir el interés de los estudiantes. y afectados en el proceso de enseñanza-aprendizaje. Como resultado, se observó que estudiantes y docentes aún valoran más la evaluación sumativa que la formativa, generando conductas aversivas al proceso de evaluación, como ansiedad y miedo. Se destacó la importancia de la evaluación al final de las tutorías como forma de estimular el desarrollo de habilidades, actitudes y aprendizaje de los contenidos estudiados, aunque no sigue un estándar convencional de autoevaluación, evaluación por pares, evaluación del tutor y evaluación por parte de los estudiantes. El tutor.

Palabras clave: retroalimentación, aprendizaje basado en problemas, criterios de idoneidad didáctica, autonomía, emociones.

INTRODUCTION

In medical education, assessment becomes complex for professors mainly after adopting active methodologies in the curriculum, as prescribed in the National Curriculum Guidelines (DCN- *Diretrizes Curriculares Nacionais*) (Brasil, 2001, 2014). They have to assess different aspects of the students, such as the development of leadership, good communication, team and inter-professional work, careful listening, critical thinking, and autonomy stimuli, in addition to the specific medical contents. The DCN stimulates training with students' active participation, able to integrate the acquired content in an interdisciplinary way, associating teaching-research-outreach. However, the discussion on physicians' training and a new curriculum preceded this guideline and was re-guided by the changes in the political and social fields in the twenty-first century, mediated by the health model based on primary health care (Lima; Padilha, 2018).

In this sense, a new perspective of training for health-area professionals starts to be thought, based on a curriculum that considers conceptual, attitudinal, and procedural competencies needed to face health situations (Lima; Padilha, 2018). These authors highlight as competences

[...] teamwork; the identification of individual and collective health care, the integration of knowledge from several professional fields; the planning and development of individual or collective therapeutic projects in a multi and disciplinary way; the coordination and implementation of care during a period; the identification of the learning needs of user, staff, and one's own, in processes of permanent education; the effective and respectful communication with the team, users, community, and managers; and, finishing this ensemble, the ability to commit oneself with the construction of health systems that defend health and life quality for people and society (Lima; Padilha, 2018, p. 4).

Connected to this, there is the need to adequate the teaching method that, previously, agreed with the hegemonic biomedical model of health (biological, mechanical, and individualizing), transposing it to a more active and participative educational model that considered the individual as a historical being. Especially in Brazil, when experiencing a model that privileges an integrated system of health care with the creation of *Sistema Único de Saúde* (SUS- Brazilian Unified Public Health System), the professional practice needed to be re-guided and a new matrix for the courses in the area started to be considered (Beasley *et al.*, 2007; Lima; Padilha, 2018). Thus, following a counter-hegemonic logic, active teaching methodologies were used. Such methodologies stimulate students to be at the center of the teaching-learning process, constructing learning in an autonomous and active way (Silva *et al.*, 2021).

According to Carabetta Júnior (2016), the active method stimulates the development of knowledge, abilities, and competencies through problematization, guaranteeing one of the guiding principles of active learning: learning to learn. These methodologies are more used in health courses because they have similar principles to those preached by SUS. Therefore, it is necessary to guarantee that the characteristics of this health model are covered in the undergraduate curricula. The most used methodology in Medicine courses is problem-based learning (PBL) (França Júnior; Maknamara, 2019; Freitas *et al.*, 2015; Gomes; Rego, 2011).

Problem-based Learning (PBL) is a pedagogical proposal focused on the study of problem situations in tutoring sessions (Siqueira-Batista; Siqueira-Batista, 2009). It also provides students with the development of attitudinal, procedural, and conceptual content, approximating them to reality through these problem situations (Borochovcus; Tortella, 2014; Souza; Dourado, 2015).

The PBL used in the medicine courses is developed in small study groups, through discussion in tutoring sessions, using thematic modules as guidelines for the learning contents – the use of a problem-situation to stimulate learning (Pinheiro; Andrade; Albuquerque Júnior, 2019). Students are divided into small groups to discuss problems and reach the learning objectives, helped by a teacher/tutor who acts as a mediator in constructing knowledge. Therefore, the groups allow the acquisition of knowledge and the development of abilities, such as cooperation, communication, resolution of practical problems, and teamwork (Magalhães, 2021; Souza; Dourado, 2015).

The moment students gather in small groups with the teacher/tutor to analyze and discuss a problem-situation with the theme proposed by the tutoring module is called a tutoring session. The tutoring session occurs in two moments. The first takes place in the phase of analysis and discussion of the problem, based on students' previous knowledge. The second phase is a meeting to discuss previously delineated objects and the group evaluation (Pinheiro; Andrade; Albuquerque Júnior, 2019). The phases followed the structure:

- (a) read the problem in groups and explain unknown terms, (b) identify the problems proposed by the heading, (c) raise explanatory hypotheses for the identified problems based on students' previous knowledge, (d) sum up the hypothesis, (e) define the study objectives needed to solve the problem, (f) individual study and (g) return to the group to another discussion grounded on the acquired knowledge (Siqueira-Batista; Siqueira-Batista, 2009, p. 1186).

A course based on the PBL model does not occur in a single-subject format because it needs an integrated curriculum, connecting the disciplines into thematic axes/modules (Venturelli, 1997). According to Vignochi *et al.* (2009), each thematic model should have problems with well-delineated objectives to allow the groups' evaluation during the discussion moments, besides an evaluation at the end of the module, which will serve as a basis to understand its quality, that is, what was apprehended during this process. To these authors, in medicine, the student should be assessed as a whole in terms of cognitive, emotional, and social aspects, among others. Therefore, different tools, such as formative assessment, should be used to allow this approach. However, some Medicine professors still assess students the same way they were evaluated, reproducing a classificatory model (Passos; Soares, 2016).

Formative assessment is a qualitative evaluation, focused on students' cognitive processes through feedback, more interactively, focused on students' cognitive process through more interactive feedback in which students and teachers list and understand their weak and strong points (Chizzotti, 2016; Fernandes, 2006). This evaluation is vital in promoting constant reflection and considering qualitative aspects at the expense of quantitative ones (Hoffman, 2014). This assessment proposal should be applied during the trajectory in the learning unity, allowing students and teachers to reevaluate, thus assuming a qualitative nature, in which the student is not seen as a concept or a score (Luckesi, 2014).

In the case of tutoring sessions, the formative assessment frequently occurs at each session and, according to Siqueira-Batista and Siqueira-Batista (2009, p. 1187), such sessions are held in the following way: “(1) students' self-evaluation, (2) reciprocal inter-peer evaluation (all students evaluate the performance of all students), (3) students' evaluation by the tutor, and (4) tutor's self-evaluation.”

Though the formative assessment proposal meets the propositions from the DCN of the medicine course, teachers and students still have difficulties to enact it. As impasses, we can list the lack of teachers' training to assess students, the assessment subjectivity, the lack of clear instruments, the difficulty of accepting/understanding feedback and motivating groups and students, and, finally, the time to build a high-quality relationship between teachers and students (Oliveira; Batista, 2012; Pinheiro *et al.*, 2017; Portella *et al.*, 2017).

Such factors can be related to emotional aspects involving motivation to learn and the ability to learn from mistakes. Therefore, there is the need to find tools to assess how teachers and students deal with this assessment process, considering the emotions. The Emotional Didactical Suitability “[...] measures the interest raised in students by teachers, as well as the participation allowed, the promotion of self-esteem, autonomy towards Mathematics, and the equality in the classroom [...]” (Franzen, 2022, p. 42), taking into account needs, interests, attitudes, and emotions. This tool could be used for the objective envisioned by this study as it provides indicators to measure students' interests, emotions, and attitudes to learning.

Emotional suitability is part of the Didactic Suitability Criteria (DSC) proposed by the onto-semiotic approach to mathematics knowledge and education created by Juan Diaz Godino and his research group at the University of Granada in the mid-1990s. It aims to categorize data after establishing the *corpus* and analysis, using the notion of qualification of a more suitable teaching-learning process, besides promoting a coherent and systemic articulation based on six suitability dimensions (Godino *et al.*, 2006). These dimensions are epistemic, cognitive, interactional, mediational, affective, and ecological,

which can be applied to analyze the implementation, the planning, the development of a didactic unit and assess the study process (Breda; Font; Lima, 2015; Godino, 2011; Godino; Batanero; Font, 2008).

The epistemic criterion assesses if a content implemented or proposed is well-suited to a reference meaning. Therefore, a high degree of epistemic suitability pervades the use of a task that allows different representations, approaches, and relationships with other tasks and with practice, as well as interpretations with assertive justifications (Godino, 2013). The cognitive criterion intends to evaluate the suitability level of students' learning before and after the implementation and the development of competencies and mathematical knowledge with the support of the whole school community (Godino, 2013; Godino, 2021; Godino; Batanero; Font, 2008). The interactional criterion aims to foment a didactic model based on the interaction among students, teachers, and content to identify the semiotic conflicts to overcome them (Godino, 2021). The mediational criterion refers to the availability of material and time resources needed for the teaching-learning process, measuring the degree to which these resources are suitable (Godino; Batanero; Font, 2008). The emotional criterion considers individual and institutional aspects to measure students' development based on their interests, attitudes, and emotions to learn (Godino; Batanero; Font, 2008). Finally, the ecological criteria compose the DSC that measures how education is adjusted to the social environment and the institutional regulations, such as curriculum guidelines, the educational project, and students' cultural characteristics (Franzen, 2022; Godino, 2021).

From this perspective, studies are needed to understand how formative assessment can affect the teaching-learning process for students and teachers involved in tutoring sessions. It is important to understand how this impact affects students' interests, attitudes, and emotions. Therefore, this text aims to analyze how formative evaluation takes place in tutoring sessions based on Emotional Didactical Suitability.

METHODOLOGY

This work has a descriptive character and a qualitative approach. According to Gil (2017), descriptive studies seek to describe a population or phenomenon and identify a relationship between the observed variables. Interviews and observation were data collection techniques indicated for this type of research (Gil, 2017).

Qualitative research, which emerged in the social sciences, aims to understand human expressions and relationships, considering the observed subject as a human who carries values, beliefs, and meanings from a social group or class (Borges; Luzio, 2010).

The research was developed in a private Higher Education Institution (HEI) in the city of Vitória da Conquista, in the southwest of Bahia, 510 km from Salvador, Brazil, with an estimated population of 340,199 inhabitants (IBGE, 2010).

This study sample was from the intentional non-probability type, as the participants were chosen within a pre-determined group, depending on availability (Richardson, 2003), composing a total of ten students and one teacher participating in the Mental Problems and Behavior module in the 6th semester of the Medicine undergraduate course. Due to the COVID-19 pandemic, the teacher mediated the tutoring session using video calls because she could not work in-person as she was pregnant, a right guaranteed by the law. The students were in a tutoring classroom in the HEI, as they did not have personal, structural and/or technological conditions to allow them to develop academic activities in their houses.

To collect data, Participant Observation was used, in which researchers enter the action field of informants/research subjects (Correia, 2009). Other instruments were a structured questionnaire and a field diary composed of presential observation of the formative assessment dynamic of four Medicine tutoring sessions between September 28 and October 22, 2021. The structured questionnaire was applied in-person to the students and *online* for the teacher, presenting questions about: *i*) the concept of formative/qualitative assessment; *ii*) difficulties and challenges to implement evaluation; *iii*) advantages and disadvantages; *iv*) formative assessment effectiveness; *v*) attitude changes after assessment (positive and negatives); and *vi*) assessment suitability to the objectives of the thematic module.

The first author conducted data analysis using the Criteria of Emotional Didactical Suitability adapted from Godino (2011) (Chart 1). In the case of the emotional dimension, the components are interest and need, attitudes, and emotions. The indicators are identified by EM, referring to emotional,

and other letters related to the components represented: EMin (Interest and need), EMat (Attitude), and EMem (Emotions).

According to Breda, Font, and Lima (2015), the criteria are measured on a three-level scale—low, medium, and high—allowing the evaluation of the quality of the analyzed object, in this case, formative assessment. Therefore, the components of emotional didactical indicators were measured using this metric.

Chart 1 – Components and Indicators of Emotional Didactical Suitability

COMPONENTS	INDICATORS (Godino, 2011)	ADAPTED INDICATORS (MEDICINE)
Interest and needs	Tasks interest students. Propose situations that value the usefulness of mathematics in daily and professional life.	EMin 1. Teaching proposals generate students' interest. EMin 2. Propose situations that value the usefulness of medicine/health in daily and professional life.
Attitudes	Promote participation in activities, perseverance, responsibility, etc. Favors discussion at equality situations; the argument has a value in itself and not based on who said it.	EMat 1. Promote participation in activities, perseverance, responsibility, etc. EMat.2 Favors discussion in equality situations; the argument has a value in itself and not based on who said it.
Emotions	Promote autonomy, avoiding rejection, phobia, and fear of mathematics. Highlight the aesthetic quality and the precision of mathematics.	EMem 1. Promote problem-situations that stimulate the development of the affective sphere. EMem 2. Highlight the aesthetic quality and the precision of medicine/health. EMem 3. Stimulate learning with mistakes (positive use of analyzing processes and results of mistakes).

Source: Adapted from Godino (2011) by the first author.

This research was approved by the Research Ethics Committee under CAAE n° 38918920.3.0000.0055, respecting Resolutions 466/12 and 510/16 of the *Conselho Nacional de Saúde* (National Health Council). Besides this, research participants were informed about the risks and benefits, as well as the objective and methodology of the project. Finally, the subjects signed a Term of Consent, accepting their spontaneous participation, with no financial benefit and ensuring anonymity.

RESULTS AND DISCUSSION

Two of the 11 research participants were men (18%) and nine women (82%), including the teacher/tutor. The age ranged between 20 and 35, and only the tutor had a high education diploma. All of them knew the PBL methodology for at least two years and participated in tutoring sessions for the same time.

The first approximation revolved around what the individuals understood by formative assessment and their perceptions of the process during the tutoring session, its effectiveness, and potential. Then, the analysis of the formative assessment in the tutoring sessions was presented under the light of the Emotional Didactic Suitability Criterion.

Teachers' and students' perceptions about formative assessment

Evaluation can be classified as summative, diagnostic, and formative (Andrade; Cizek, 2010; Bloom; Hastings; Madaus, 1975; Luckesi, 2014). Any summative assessment that aims to categorize students' performance and is applied at the end of a unit, semester, or school year is considered a summative evaluation. Diagnostic assessment allows teachers to reevaluate their practices, identifying students' difficulties and abilities to perform the activities proposed during the period. Formative assessment is applied during the learning unit, allowing teachers and students to reevaluate themselves;

furthermore, it has a qualitative character in which students are not seen as a concept or a grade. However, it is worth noting that both can be applied without nullifying their value; they simply have different objectives (Oliveira; Senger, 2014).

Based on the questionnaires, most research participants did not understand evaluation qualitatively but as a criterion to measure students' knowledge. When questioned about their understanding of assessment, the answers were:

- “Quantify students' knowledge” (Teacher);
- “Test or number of questions to evaluate learning” (Student 1);
- “Analysis attributing a grade depending on performance” (Student 2);
- “Analysis of the knowledge studied and practiced”(Student 6);
- “Analysis of common criteria for those in the same activity” (Student 7).

The perception of a purely summative evaluation, including the teacher, is clear. Besides this, the notion of students' classification using criteria, contents, or tests is perceivable, bringing to light a classifying assessment model in which students are seen as a grade and not as individuals with abilities. When asked about the types of evaluation they know, other students point out as quantitative assessment strategies the use of seminars, written works, and oral, practice, and proficiency tests. Summative assessment, as well as the formative one, has a relevant role in learning and can be complementary. However, they have different characteristics: while formative assessment consists of a process of qualitative learning mediator, the summative approach brings the idea of knowledge classification/quantification to its scope. Therefore, overvaluing the qualitative assessment model through instruments like tests makes students focus on their technical development based on concepts, undervaluing communication abilities, teamwork, and ethical and interpersonal relationships.

Contraposing this merely summative idea, some students approached the conception of a qualitative evaluation.

- “[...] students' and teachers' feedback about the students” (Student 3).
- “A way to quantify and qualify a given person about their knowledge in a specific ability” (Student 9).

The students noticed the relevance of qualitative criteria, showing they were aware of the importance of formative assessment, though they did not name this type of assessment. This fact is corroborated in other moments when listing the identification of flaws to be corrected and the reinforcement of the positive points as advantages of assessment, as well as noticing some changes during self-evaluation, evaluation by peers and by the tutor.

- “Improvements in the discussion, peer relationship, and a better tutor's perspective regarding the tutored group” (Student 9).

This student perception of the qualitative criteria and the feedback to improve learning is beneficial as it shows they are moving towards constructing an effective evaluation and developing the necessary abilities and attitudes for their formation (Borges *et al.*, 2014). However, few students still perceive this, and it needs to be worked more effectively during the development of active teaching methodologies, mainly PBL, to make it a routine.

During the observations along the tutoring process, we could perceive the valuing of summative evaluation, when students seek the number of participations at the expense of the quality of concepts presented. Furthermore, at the end of the sessions, students often pointed out the positive aspects, seeking to improve their individual and group grades.

Formative evaluation effectiveness in tutoring sessions: difficulties and challenges

When the participants were questioned about how assessment in tutoring should take place, students pointed out that contents, abilities, and competencies should be assessed throughout the session but still in the perspective that these criteria should be considered. This is clear when some students

demonstrated that the assessment was not completely effective as it valued the number of participations, not the quality of what was presented, or even because it disregarded individual aspects, such as shyness.

“The valuing of some teachers for long speeches as a way to show the amount of studies and the lack of empathy of some students to give space to others. [...] The practice doesn't work the same as in theory” (Student 3).

“An assessment could be held at the end of each tutoring, with written questions” (Student 6).

Bivanco-Lima, Klautau, and Knopfholz (2022) affirm that, though Medicine students understand the importance of formative evaluation, the practice is different because they focus more on the cognitive area and often disregard psychosocial aspects. This study corroborates the finds of the present research, as the teacher reports the relevance of an evaluation that considers individual characteristics but still assess students through quantitative instruments, even citing a checklist as an evaluation tool in tutoring.

Though the teacher helps students during the discussion, positively signing they are approaching the theme correctly, at the end of the tutoring session there is no individual feedback for the students, nor a self-assessment of their practices. During the observation of tutoring sessions, the teacher assessed the students individually. There were no peer assessments in any meeting, i.e., the feedback does not happen adequately. Such fact demonstrates the difficulty in the effectiveness of formative assessment in tutoring sessions, mainly as it does not contribute to the students' reflexive thought.

When questioned about the forms to evaluate tutoring, most students cited tutor assessment and self-assessment as steps for feedback. Furthermore, in the practice and in students' testimonies there were individual and group assessments. It is possible to perceive that the assessment process does not follow the model proposed in tutoring, when the students stated what they believed to be ideal.

“To talk about the assessment individually, pointing out the positive points and points to be improved” (Student 1).

“The tutor should make an individual assessment for each student with constructive criticisms” (Student 3).

Some aspects, such as time and amount of content, are factors that do not let teachers enact a consensual and processual assessment, not valuing the learning rhythm of each student (Pereira *et al.*, 2020). The lack of *feedback* in the tutoring session can act as a stressing factor, causing depressive symptoms in the students, as they cannot mediate their knowledge (Maia *et al.*, 2020).

It would be important for teachers to rethink the practices seeking educational behaviors that agree with the subjects in their multiple cognitive, biological, social, cultural, physiological, and spiritual aspects, i.e., the evaluation should occur constantly and consider the individual and collective aspects (Vasconcelos *et al.*, 2021). Thus, teachers and education institutions need to re-dimension their practice, aiming to help students seek learning towards professional formation, developing the ability to deal with the world's complexity during the teaching-learning process.

Formative evaluation potentials in tutoring sessions

All participants believe in the power of formative assessment when asked about the advantages and changes from this process as tools to identify positive and negative points, as well as the possibility of improving these points.

“It allows students to develop their difficulties” (Student 2).

“There is an improvement regarding the negative points. Positive results in some points are approached” (Student 4).

“Opportunity for students to interfere in the development for a better efficiency of the group and the individual” (Student 6).

In the testimony of some students, it is clear that the assessment of abilities in tutoring stands out, showing they are aware of the importance of developing conceptual, procedural, attitudinal

competencies for their formation. Among these abilities are teamwork, collaboration, and communication, corroborating with other studies in the area (Bezerra *et al.*, 2020; Roon *et al.*, 2019).

“Student role during tutoring, participation, previous knowledge” (Student 1)

“Oral (ability to explain clearly and objectively), previous knowledge” (Student 2).

“Evaluate presence, participation, individual evaluation, capacity to dialogue in group; give space for the classmate to talk” (Student 3).

“Punctuality, participation, references, and dynamic” (Student 6).

We can perceive in these answers and during the feedback development in the tutoring sessions the valuing of tutoring phases, such as the roles played by the coordinator, the reporter, and the participants, besides the need to observe the quality of bibliographic references used, validating the construction of a critical spirit and ensuring the effectiveness of last tutoring phase, as in the construction and description of the summary of hypotheses, as shown in the literature (Pinheiro; Andrade; Albuquerque Júnior, 2019; Siqueira-Batista; Siqueira-Batista, 2009).

The research by Freitas, Fontana and Zaatti (2021) shows that the use of active methodologies, as PBL, has favored the enactment of feedback as a tool of formative assessment, ensuring the improvement and the regulation of students' learning, besides allowing teachers to plan their classes to contemplate the competencies to be developed by their students. The authors cited also highlight that the union of active methods and formative assessment allows a greater connection between theoretical and practical contents, as well as decreases students' failure and dropout. Processual formative assessment allows students' learning management, becoming a powerful tool to self-regulate learning and favoring the consolidation of theoretical-practical knowledge and collaborative attitudes.

The emotional dimension in formative evaluation in tutoring sessions

After analyzing the field diary and the components “interest and need” and “attitudes” reached medium levels of didactic suitability, while the component “emotions” reached a low level.

The component “Interest and need” points out that formative assessment creates interest in improving students' fragile points, especially which of those points will be highlighted by the tutor, stimulating ways to transform them. However, there is a need to identify the strategies to improve teachers' and students' weak points.

Feedback is an important aspect of formative assessment, allowing students to understand where they need to improve and situate their learning. However, part of the process is the definition of strategies to potentialize and improve the weak points, a process called *feedforward* (Machado, 2020). Furthermore, highlighting the learning objectives allows all actors in the teaching-learning process to evaluate it more effectively, regulating learning (Alves, Faria, Pereira, 2023; Aranda, Moreira, 2013; Pinto, 2019). Na effective *feedback* generates motivation to learn, help improve performance, and raise self-reflection (Borges *et al.*, 2014).

Tutor's interference to bring elements from the medical professional practice validate the theoretical knowledge explained to the students in tutoring, associating the theory with the practice and generating interest in the theme.

“The professor reports some important points at the end of each objective really contributing to learning and complementing the topics” (Student 3).

According to Pinto (2019), teachers' role is to present, in a clear way, the learning objectives, that is, to guide students to reach the expected targets, bringing concrete elements to clarify these objectives. Thus, it is possible to infer that the dialogical relationship established between tutors and students reinforces the strong points and guides the discussion to understand the content associated with the professional practice, ensuring learning based on the development of concepts, abilities, and competencies.

Regarding the component “Attitudes,” students display collaborative behavior when positively assessing the tutoring session, nodding assertively during the oral presentations, and helping students participate in the discussion. This behavior aims to improve everyone's evaluation.

Though these points improve some qualitative aspects, such as team and collaborative work, and are seen as an opportunity to improve abilities, there is a conceptual confusion regarding assessment. When thinking about improving their classmates' evaluation, students only consider the summative issue and dismiss the formative one as a tool to potentialize the development of knowledge, competencies, and abilities.

This conceptual distortion of the assessment process overvalues grades at the expense of learning. Teachers are often responsible for that, as they use the evaluation system to control and classify students (Silva; Mendes, 2017). The authors reinforce the need for teacher formation to deeply understand the conception of their practices and understand their role in changing this scenario.

Also, regarding the component "Attitudes," some students reported the lack of honesty as a destructive attitude during *feedback*, as students do not bring all aspects to be approached and debated, affecting the management of learning on an individual or collective level. Besides this, students' and teachers' testimonies reinforce that some aspects related to personality, for example, shyness, are not considered during formative assessment.

"Students have personality characteristics that are not always considered" (Teacher).

"Some teacher value long speeches as a way to show the amount of study and the lack of some students to give space to others" (Student 3).

Kaim *et al.* (2021) show that one of the limitations of formative assessment is the evaluators' subjectivity, as this subject tend to evaluate their peers through their personal impressions, dismissing performance; that is, the individual characteristics of those being evaluated are not considered but the relationships established with the evaluator and the possible conflicts among those involved. This fact can limit the improvement of abilities to work in medicine, which are preconized at the DCN (Brasil, 2014), raising a misleading assessment and false-positive results (Gomes *et al.*, 2021).

Regarding the tutor's attitudes, we can perceive positive behavior during the discussion, as she stimulates students by nodding her head in agreement when they are correct or disagreeing when there is a mistake. The fact that the teacher interferes little in the discussion, valuing students' knowledge and favoring everyone's participation, reinforces that students are following the content that should be approached. The teacher has a mediation role in the teaching-learning process when necessary.

The tutor also always takes notes when students contribute. However, it is not possible to say if she evaluates them in a summative or formative way, as there is no individual assessment at the end of the tutoring process. When questioned about how the tutor could help reach the module's objectives, the students believe that an evaluation at the end of each tutoring session is a positive point; however, this seldom happens.

"The tutor's evaluation for each student would be more constructive, what rarely happens" (Student 3).

"A lot! Because they can stimulate negative points to be improved and continue with the positive points" (Student 6).

Students could perceive the relevance of feedback in the formation process but for it to be effective, it needs to be "[...] clear, objective, and coherent; individually, constantly, and continuously; highlight students' positive points and point out weak points" (Miranda *et al.*, 2020, p. 4). Moreover, for the formative assessment to be meaningful, it should allow interaction between teachers and students, seeking to promote self-regulation and learning regulation (Araújo; Diniz, 2015; Souza, 2021).

However, teachers, mainly in the health areas, normally lack didactic formation to teach in higher education, facing difficulties to understand the relationship between teaching conception and methodology (Moreira; Santos, 2021; Santos *et al.*, 2022). This problem can explain tutors' difficulty in consistently assessing the development of concepts, abilities, and competencies needed to form physicians nowadays.

Finally, the component "Emotions" reinforces that not all students consider the assessment process a possibility to improve concepts, abilities, and competencies, as they show in their reports or actions a fear of failing and anxiety. A point that corroborates this is the unavailability of students and

the tutor to implement the evaluation steps of PBL, as preconized by Siqueira-Batista and Siqueira-Batista (2009), i.e., this difficulty hinders the possibility of formative evaluation as a way to learn with mistakes.

This fact, previously discussed, is evident in the students' testimonies when discussing the challenges during *feedback*.

“Group behavior, particularities of each student, scenario, theme, because they can somatize inhibiting factors for the student” (Student 6).

“Shyness or the inhibition to say something and maybe disrespect someone, or the teacher not like your opinion” (Student 9).

“[...] the ability to receive criticisms and know how to reach a good solution for both people involved” (Student 10).

The time, insecurity, lack of training, and fear of affecting students' self-esteem lead tutors to not give good-quality feedback, raising students' dissatisfaction (Portella *et al.*, 2017). This situation potentializes students' inhibition to self-assess and assess classmates and the tutor, even when instructed about the necessary assessment steps to conduct the tutoring session, also reinforcing the valorization of content at the expense of developing other competencies. Portella *et al.* (2017) also raise the culture of summative assessment as a barrier to formative assessment effectiveness because students avoid a qualitative assessment because they are afraid of admitting their weak points and being reproved in the class.

According to Miranda *et al.* (2020), assessment should generate reflection, motivation, and awareness of its importance for the student. Therefore, teachers should instigate good practices and the improvement of weak points. For this to happen, feedback should be an essential step to promote students' learning and the development of abilities and attitudes for medical knowledge and action. Training and standardized evaluation instruments can help students and teachers implement an effective formative assessment with clear and unquestioned criteria (Kaim *et al.*, 2021; Pricinote; Pereira, 2016; Santos *et al.*, 2018).

Finally, assessment can exclude and affect students' wish to learn. Therefore, it should be broadly discussed, considering its possibilities to generate justice and as a target for educational public policies to improve the assessment system (Chizzotti, 2016). Additionally, it is fruitful to think of formative assessment integrating the different aspects of students' lives, from cognitive to emotional ones (Lopes; Vieira, 2020). Therefore, there is a need to increase the discussion on the assessment process in general, reinforcing the characteristics of formative assessment as emancipating and a promoter of changes in the social and school context.

FINAL REMARKS

Formative assessment is seen as a strategy to measure and manage the learning of all actors involved in the teaching-learning process, listing feedback as an essential step (Almeida *et al.*, 2019). This study sought to analyze how formative assessment occurs in tutoring session, based on Emotional Didactical Suitability, showing that there is still much to advance in the conceptual understanding of evaluation, distinguishing formative and summative assessment.

The research results show that the students and the teacher still have a quantitative assessment perspective, focused on classification through tests. However, they understand its potential to develop abilities in tutoring sessions. They still cannot understand how to implement formative assessment in tutoring sessions, mainly due to the subjectivity of this evaluation, besides teachers' lack of understanding on how to carry out feedback, despite knowing that the notion of formative assessment is effective to promote changes in their behavior and in the competencies for professional practice.

Under the aegis of Emotional Didactical Suitability Criteria, we can infer that in the tutoring sessions in the Medicine course, the formative assessment is perceived as essential to self-regulate students' learning, stimulating them to improve their learning process and the emotional, attitudinal, and motivational factors. However, the assessment moment still provokes in anxiety and fear of failure in the

students. This happens due to the lack of a formative assessment that guides tutors and students to effectively evaluate performance.

Working with Emotional Intelligence in the educational context can potentialize the teaching-learning process, re-guiding teachers' and students' practices (Rêgo; Rocha, 2009). Therefore, such an approach should be part of the educational context and can be enlisted as an ability to be learned during tutoring sessions and the focus of teachers' training.

To conclude, qualitative and processual assessment, connected to active education methodologies, can be an effective strategy to improve learning and self-regulate knowledge for students and teachers. However, for this to happen, teacher development programs need to be implemented to re-signify the practice and perspective of these professionals regarding assessment (Bivanco-Lima; Klautau; Knopfholz, 2022). These programs should be institutionally assumed and offered continually in suitable spaces and times that favor teachers' full participation.

As limitations for this study, we list the fact that the tutor was not physically present, which might contribute to not following the tutorial dynamic, as preconized in the literature. Besides this, the use of masks due to the COVID-19 pandemic hindered the understanding of students' expressions during the discussion. Therefore, we suggest new and more extensive studies with all members present in-person to check their emotions more reliably.

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Submitted: 11/09/2023
Preprint: 08/09/2023
Approved: 14/07/2024

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Author 1 – Conceptualization, data curation, formal analysis, resource raising, investigation, methodology, project management, resources, writing original draft, review and editing.

Author 2 – Formal analysis, methodology, writing review and editing.

Author 3 – Conceptualization, data curation, methodology, project management, supervision, writing review and editing.

CONFLICT OF INTEREST

The author declares no conflict of interest in this article.