

Teacher research on changing the concept of English language teaching

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Abstract

The presented research conducted at the Faculty of Medicine at Comenius University in Bratislava within the English language course elaborates on the issue of changes in teaching concepts. The research problem was identified based on a specific teaching experience, which indicates that a behavioural approach to teaching and learning is primarily applied in English language classes at the Faculty of Medicine at Comenius University in Bratislava. The concept of constructionist teaching was used, and through qualitative phenomenological research, the student's perspective on the implemented changes in the teaching process was examined. Focus group tools and phenomenological interviews were used to collect research material. In analysing the research material, the strategy of applying the constant comparison method was utilised. The research sample consisted of 26 students who interpreted their experience with the changed teaching concept, emphasising terms like chaos and fear of the new in their statements. The authors of the study comment on probable causal relationships and point out what is hypothetically possible in the teacher-didactics-learner relationship. Through their research activities, the authors also reflect on currently emphasised intentions, where attention is focused on changes or transformations in teaching strategies, in which the behavioural approach should no longer prevail.

Key words: teacher research, English language teaching, qualitative methodology, teaching strategy, didactics

Introduction

The research problem was identified based on a specific teaching experience, which indicates that a behavioural approach to teaching and learning is primarily applied in English language classes at the Faculty of Medicine at Comenius University in Bratislava. The authors of this study also reflect on currently emphasised intentions, where attention is focused on changes or transformations in teaching strategies, in which the behavioural approach should no longer prevail. In a didactic sense, we are talking about a departure from a behaviourist conception of teaching/learning and, thus, an expected move towards one of the opposing conceptions (constructivism, social constructivism, or constructionism). In educational research and didactic theory, the limitations of the behaviourist conception of teaching and learning are already well-known. Therefore, the intention to replace its application with contradictory conceptions can be seen as a positive step towards improving education conditions and students' learning. However, what we as authors understand as crucial is the implementation of a particular conception of teaching and learning, which presupposes an understanding of its principles. It is a question of combining pedagogical thinking, acting, reflecting, revising practice, etc. We share the view that the teacher can learn and, at the same time, professionally develop through his teaching. In other words, our research interest is designed around what teachers know when students work independently in learning contexts (Woods & Copur-Gencturk, 2024). Thus, the learner's perspective on a constructionist learning environment can be understood as a source of valuable information about one's teaching. We believe that the teacher is to participate in the co-creation, not just the direct management, of the learning environment and gain pedagogical knowledge from understanding the viewpoints of the students to organise and coordinate the activities, i.e. to guide students in their learning and education, to develop an interest in learning, to reinforce the habits of learners leading to the strengthening of their ability to work independently or cooperatively.

Constructionism

The theory of constructionism builds on Jean Piaget's learning theory of constructivism. It is based upon the assumption that truth is a subjective entity and an individual learns most effectively and has the greatest enjoyment of learning when constructing and constantly reconstructing their world of knowledge through personal experience. In addition, constructionism holds that learning is most successful when students actively create real-world, tangible objects. Papert (1991, p. 1), the founder of constructionism who worked with Piaget in Geneva, says that

„constructionism – the N word as opposed to the V word – shares constructivism’s view of learning as building knowledge structures through a progressive internalisation of actions...It then adds that this happens especially felicitously when the learner consciously constructs a public entity, whether a sand castle on the beach or a theory of the universe.”

Thus, constructionism can be looked at as a further stage of constructivism, focusing on the creation of an object as well as the recipients of that object.

To Papert, sharing one’s inner feelings, opinions, and ideas is fundamental to learning. By expressing ideas, we communicate with others through those expressions. Additionally, when transforming a thought into a palpable object, it, in turn, shapes and sharpens the idea. So, it can be said that “Papert’s constructionism, in other words, is both more *situated* and more *pragmatic* than Piaget’s constructivism [or Vygostky’s socio-constructivism]”. Ackermann (2001, p. 5)

Papert points out the importance of fusion, or “becoming one” with studied phenomena. Proper understanding can be achieved only after diving into an object or situation and creating a connection and relationship. To him, being intelligent means to be perceptive and sensitive to changes in our environment. He is concerned with the dynamic of change. Ackermann, a Swiss-born developmental psychologist and learning theorist, breaks down Papert’s perception of learning theory and provides insight into its details. “Papert’s view that diving into unknown situations, at the cost of experiencing a momentary sense of loss, is also a crucial part of learning...Both “dwelling in” and “stepping back” are equally important in getting such a cognitive dance going. How can people learn from experience as long as they are immersed? There comes a time when one needs to translate the experience into a description or a model. Once built, the model gains a life of its own and can be addressed as if it were “not me”. From then on, a new cycle can begin because as soon as the dialogue starts (between me and my artefact), the stage is set for new and deeper connectedness and understanding” (Ackermann, 2001, p. 9).

Research framework

The research was conducted at the Faculty of Medicine of Comenius University in Bratislava in 2021/2022. English classes at the Faculty of Medicine primarily use a behavioural approach to teaching, which, combined with other challenging subjects, can burden students, as they may feel as if they are only passively taking in a large amount of information. The intention was to replace this type of teaching and learning with a conception characterised by active student participation and increased interest in learning. Aligned with this effort, Kováč and Hamar’s (2022) study at the same institution highlighted students’ preference for a more interactive and communicative approach to learning English. Their findings indicate that students, particularly in advanced groups, wish to move beyond grammar-focused instruction and routine exercises, favouring a teaching style that prioritises active participation through communication and discussion. This study also encourages teacher reflection, revision and action by inspiring teachers to consider applying constructionist teaching methodology in their teaching practice. The focus of this research project and the applied constructionist approach to teaching/learning was on designing and producing educational material in the form of student projects to meet the field content and linguistic standards expected at scientific medical conferences. The idea of creating study material for other students (peers) came from previous discussions (and focus group 1) with the students attending the English class on what would help them seek importance in learning English with a meaningful impact on their future practice. In other words, it all started with a so-called driving question: „How can we help promote the importance of learning English within the faculty? “

Within the initial phase (the beginning of the semester), students were asked to independently select a scholarly article and write a summary of its content while maintaining the original ideas presented. This exercise assessed the student’s comprehension level and ability to extract relevant information from the text. This task was also essential to allow students to reflect on their progress during the semester. Later, within teacher research reflection, important information was brought up for the teacher when suggesting possible further support for the students in upcoming activities.

Later, they were given further instructions to split into pairs, agree on the topic they wanted to research and find at least five scholarly articles on the chosen topic. The primary sources of information for the projects were articles, scientific studies, and case studies written by Slovak and foreign authors, which were available in the faculty’s online library. Working with such sources was essential for students’ future medical or academic careers. Students worked on their topics during two class units (90 minutes) per week. Before topic development, students discussed the essential components of a quality academic presentation or study with the teacher.

As part of the educational material, students were required to create a portfolio that included professional medical vocabulary, specifically a glossary of at least 60 terms taken from professional articles. In addition, students were instructed to focus on conjunctions and create a list of 30 conjunctions taken from articles with examples of

their correct use in a sentence and a list of 30 correctly used word series that included correctly used terms from articles in the context of word formation.

Each lesson included a discussion with each pair of students about the content, findings, progress, changes, processes, and problems they encountered while preparing the educational material. The final presentations of their projects (the educational material) were delivered online by the students via the Teams platform and lasted approximately 30 minutes per group. The evaluation process consisted of self-assessment and peer evaluation. In the midterm and final exams, students were tested on terms from the articles, conjunctions, and correct word formation. All research activity was conducted online due to the COVID-19 pandemic situation.

Research objectives and research questions

This research aimed to investigate how a constructionist approach to teaching affects medical students' learning of English and identify teacher knowledge (cognition) related to such an approach. In addition, the study sought to determine the impact of learning through teaching within the framework of online teaching during the pandemic.

The research questions were defined as follows:

- 1) What (lived experience, factors, phenomena) related to prior English teaching/learning forms the learner's understanding of their role in learning?
- 2) How do tertiary-level students interpret the constructionist approach in learning the English language, and what sort of teacher knowledge (cognition) can be derived from these interpretations?

We were also interested in finding answers to these sub-questions:

- What was the motivating factor during the learning process within the constructionist approach?
- What linguistic resources and grammatical structures are influenced by the application of the constructionist approach?
- What is the student's opinion on how online learning influenced the possibility of applying the constructionist method in the teaching process?

The presented research is based on a specific type of qualitative research - teacher research. We pursued the research goal by applying the principles of qualitative methodology and combining the mentioned research approaches of qualitative methods:

- **Phenomenology** – related to the study of subjective meanings of individuals and the construction of meanings. By applying the principles of phenomenological qualitative research, we aimed to gather testimonies about a specific phenomenon and interpretations from the participating subjects. The main goal was to describe and analyse the lived experience of any particular individual with the given phenomenon, seeking intersubjective meaningfulness in the interpretations of the subjects (Flick, 2009).
- **A holistic approach** – that took into account the contexts in which subjective experiences occurred and related to learning from specific cases. The research focused on the inner world of understanding and meaning-making by studying the phenomena.

Applied research tools, methods, and techniques

- Focus groups have been applied as a research tool for data collection to collect opinions, beliefs and explanations of the research subjects' knowledge (McNamara, 2006).
- Open coding as a method of initial analysis, opening the text (transcript) of research subjects' testimonies); the creation of codes and categories (Strauss & Corbin, 1999).
- Focused interviews as a method of further in-depth explanation and enriching emergent theory, which sought to affirm research subjects' understandings of interpretations and create concepts based on a particular set of subjective experiences, hypothesised significant elements identified by the researchers (Merton, Lowenthal, & Kendall, 1990).
- The strategy of applying the constant comparison method (CCM) has been used in terms of systematising research data categories and tracking the saturation of categories to generate a theory about the phenomena under study (Boeije, 2002; Kolb, 2012; Kostrub, 2016).
- The technique of contrasting research data within the framework of Patton's (2002) information sampling analyses. The research subjects' statements and reflexive opinions were the object of investigation, and a contrasting technique was used to analyse the information samples. Validation with verification was conducted, and methodological triangulation was applied.

Organisation and conduct of research

Data collection was conducted through two focus groups: one at the beginning of the semester, specifically during the second class (Focus Group 1), and one at the end of the semester, during the last class (Focus Group 2).

Both focus groups were conducted online through the Teams platform and included all (26) students and two teachers (researchers), with each focus group lasting a full 90 minutes. The purpose of data collection in Focus Group 1 was to determine the students' previous experiences learning English in primary and secondary school or kindergarten. Furthermore, the students' perceptions of their teacher's teaching style were investigated. It is important to note that the aim was not to evaluate the teachers but to determine whether students would recommend such a style to other teachers during their undergraduate studies in teaching and educational sciences. The aim was to obtain students' perspectives on whether they considered it appropriate to continue this type of English language teaching regarding its relevance and benefit to their further education or to discontinue it somehow. The researchers carefully followed the direction of the students' interpretations and, with additional follow-up questions, tried to get more detail, a different perspective, or further development of the testimony. They were encouraged to express their thoughts carefully to avoid influencing students toward a particular answer.

At the end of the semester, after completing the projects, Focus Group 2 was held to gather students' opinions, summarise their experiences, conclusions, (self)reflection and discuss the advantages and disadvantages that the project work – constructionist learning/teaching had brought. Particular attention was paid to exploring students' views of online learning. The entire research was conducted during the global COVID-19 pandemic when the working, educational and personal worlds shifted entirely to the online space. The researchers found it interesting and important to learn about students' perspectives on online learning.

During the focus groups, the researchers took notes and discussed their understandings and preliminary findings. Although at the beginning, it was necessary to invite specific students to express their opinions and experiences, later on, the students themselves actively participated in the discussion. During data collection, Marshall and Rossman's recommendations to create a welcoming and supportive atmosphere were followed, as they assert that "the trick is to encourage the expression of participants' views through the creation of a supportive environment" (Marshall & Rossman, 2016, p. 154).

After transcribing focus group recordings, a significant theme was identified in the students' statements: the theme of chaos. A deeper understanding of this theme was needed for further research. It was unclear what the concept of chaos meant to the students specifically, what factors contributed to its emergence, how they struggled with it, and how they interpreted it. Consequently, the identified students mentioned above were contacted, and individual online meetings were conducted with them via the Teams platform. Informants were selected based on predetermined criteria (the occurrence of research-relevant statements or their sequences from the focus groups). The data was collected through a phenomenographic (phenomenological) focused interview. "The purpose of this type of interview is to describe the meaning of a concept or phenomenon that several individuals share" (Marshall & Rossman, 2016, p. 153). As Kostrub (2022, p. 167) explains, a well-designed interview provides a wealth of information about an individual's subjective understanding of experiences, phenomena, and concepts. Students were asked open-ended questions about their conception of chaos within the experienced learning. Merton, Lowenthal and Kendall (1990) applied the focused interview in terms of its principles.

Additional data were collected through analysis of student products. Students developed their academic papers into presentations as part of the created educational material, which was thoroughly analysed and evaluated. Students orally presented their findings and facts, recorded for later evaluation and analysis of their content and form. In addition, students provided their work via email for later review. The students' portfolios were also thoroughly analysed. The portfolio, as a product of the student, is considered an artefact of concentrated student effort from which it is possible to identify the teacher's pedagogical concept, the student's demonstrated contributions and interests, the student's autonomy and responsibility, as well as the competencies demonstrated by the student.

The strategy (i.e. iteration) of the Constant Comparison Method application was used to analyse the collected data. As stated by Kostrub (2016), the Constant Comparison Method involves a structured process of collecting, categorising, and examining data in conjunction with a theoretical framework, with the ultimate goal of developing data-driven theories. This method does not aim to test universal principles or validate causes or other data inputs. Instead, this approach ensures the saturation of needed information. Based on the theory of this method, the research field was entered periodically during each class period to collect data, which was then analysed. Then, the research field was entered repeatedly until the category created was deemed sufficiently saturated. The constant comparison method consists of the following phases:

- 1) Comparison of events usable for a particular category
- 2) Integration of categories and their features
- 3) Defining the theory
- 4) Conceptualisation of the theory (Kostrub, 2016, p. 120).

The process of open coding was carried out in terms of an inductive (thought) process, an analytical study of transcription (transcript), in which an iterative, non-linear ('zig-zag') movement through the research material, i.e. from case to case (and back) to conceptually grasp of the studied phenomenon(a). This process (constant comparison) in the coding phase followed the principle of theoretical (pre)reasoning about the data collected. Following this principle, the emergence of codes and categories is preceded by multiple analyses and systematic questioning, which enables researchers to open up the text (research material). Within the process of deciding on and how to label (code) a specific word, sentence or paragraph of the text, we proceeded by searching for the naming of the phenomenon(a) tied to the object of study as its manifestation, condition or consequence (Kusá, 2021).

Table 1. Overview of saturation of categories and subcategories related to focus group No.1 and research question No. 1

Categories and subcategories	Saturation of category
Technique of drill	3
Absence of conversation in learning	4
Predominance of grammar	7
Conversation	7
Student's attitude toward conversation	10
Significance in previous experience from school	4
Students' perspective on the pedagogical approach	23

The categories (listed in Table 1 and Table 2) resulting from applying the CCM were directly derived from the statements of the interpretive repertoires of the research subjects. The emergence of a category was predetermined by the meaningfulness of the utterance concerning the subject matter, aim, and research questions, as well as its occurrence and repeatability. The aim was to create categories that subjects used to conceptualise their experiences and perspectives.

Table 2. Overview of saturation of categories and subcategories related to focus group 2 and research question 2

Categories and subcategories	Saturation of category
Working with scientific articles/studies	2
The selection of the topic according to the student's interest	8
Opportunity to delve into the depth of the topic	2
Cooperation in pairs	8
Partial chaos	5
Development of the ability to process professional articles	5
Time flexibility	7
Less stress/more confidence when presenting	5
Motivation	5

In the further analysis of the research data, the following principles of high mental abstraction and techniques were applied according to (Quintana, 2006; Kostrub, 2016):

- Techniques of generating signification (elaboration of a concept, idea, or image that allows the emergence of an interpretable phenomenon or an understandable phenomenon) by integrating the different parts of the investigation of the phenomenon.
- Techniques of generating signification by differentiating different parts of the data.
- Implementation of contrasting and comparing.

Findings

The research subjects recounted their previous English language learning experiences, characterised by a pronounced emphasis on grammar, a lack of conversational opportunities, frequent teacher turnover, and drill-based teaching techniques. They interpreted their lessons as repetitive, with a fixed scenario, promoting convergent thinking and, in some cases, pre-defined algorithms in tasks and activities. This indicates that, in such an environment, students can quickly adapt to predictable mechanisms. However, cognitive disruption may occur when exposed to different teaching/learning scenarios.

Table 3. Overview of interpretation categories and concepts

Interpretation Categories	Concepts
Students' perspective on the pedagogical approach and the creation of pedagogical knowledge	- students' subjective experiences and attitudes toward the pedagogical approaches, whether traditional (teacher-centred) or contemporary (student-centred), - reflections on the teaching style as motivating, effective, or engaging, and whether it meets their individual learning needs. - Valuable feedback for the teacher to understand the effectiveness of his teaching and to identify areas for improvement based on student perceptions.
Attitude toward conversation or the need for cultural and discursive practices	- involves exploring students' knowledge, beliefs, attitudes, and dispositions toward engaging in spoken language practice, - reflects the psychological and emotional dimensions of language learning, including apprehension, confidence, motivation, and perceived competence, - Teachers should examine how students' attitudes toward conversation shape their participation in class discussions, group work, or informal language exchanges. - Factors such as cultural influences, prior learning experiences, and personality traits should also be explored, as they contribute to whether students view conversation as an enjoyable or anxiety-inducing learning component.
Predominance of grammar, drill and isolated knowledge or Behavioral approach to teaching/learning	- a structured, repetitive approach to language learning language forms and structures through controlled exercises, - focus on accuracy and the mastery of specific language items, - grammar rules, vocabulary, or pronunciation, - learning is seen as the reinforcement of correct responses through repetition, - can provide students with foundational knowledge, - lack of motivation, engagement, and retention, - lack of creative or meaningful application of language - impacts the student's ability to communicate effectively or feel engaged in the learning process.
The selection of the topic according to the student's interest	- involves allowing students to choose or have a say in the topics they study or research, - enables focus on student autonomy, motivation, and engagement in learning, - influences students' enthusiasm, involvement, and overall learning experience, - enhances the sense of ownership over one's education, - encourages deeper engagement, exploration, and long-term retention, and highlights challenges like narrowing down a broad area of interest or balancing personal preferences with academic requirements.
Cooperation	- for problem-solving, discussions, or co-creating projects, - emphasis on peer learning, social interaction, and the development of collaborative skills, - communication barriers or unequal participation, sharing ideas, enhancing learning through dialogue, and developing interpersonal skills, - conflict resolution or differing work habits.
Development of the ability to process professional articles	- students' growing capacity to read, understand, and critically engage with professional or academic texts, - involves recognising key arguments, evaluating evidence, and understanding the context of findings, - evolving ability to process complex, discipline-specific literature, - the value of this skill for their academic and professional futures, - building a deeper understanding of their field.
Partial chaos	- a form of constructive disruption in the learning process, - allows for exploration, experimentation, and discovery. - to navigate uncertainty and ambiguity, - fosters resilience and critical thinking, - provides a more versatile, dynamic (real-world) environment, - allows us to make and learn from mistakes, iterate, and learn from experience, - includes space for creativity and innovation, - students shape their understanding through trial and error, reflection, and feedback.

In our research, a key element in (re) conceptualising the teaching and learning of the English language in favour of the constructionist approach was identified as the teacher's methodical continuity. It showed that when provided by the teacher, the phenomenon of partial chaos, as interpreted by our subjects, was lessened after a few classes. Though understood as versatile and dynamic, the learning process still needs to be organised so that each part of the curriculum logically builds upon the previous one. This highlights the importance of clarifying the aim—what needs to be done, what kind of problem is to be dealt with or solved, and what the student's role is in the process. Teachers should promote questioning until most students understand where to start and where they want to end up. Therefore, the availability of high-quality, diverse, and thematically cohesive learning resources is crucial.

In constructionist teaching and learning, learning resources are critical in supporting students as they construct knowledge through hands-on experiences and collaboration. Unlike traditional teaching methods, which focus on passive information delivery, constructionist teaching encourages students to create, explore, and reflect while interacting with various resources. Students were guided through resources that helped them develop educational materials for others, with the teacher focusing on assisting students to progressively acquire knowledge, skills, and competencies with each new concept connected to prior learning experiences.

Based on the student's portfolio analysis, we observed a successful transition from lay text features to those of professional text in their final presentations, indicating the development of their competencies in creating professional text. A transition from characterised texts:

- A) short sentences versus complex sentence structures
- b) expert terminology
- c) clear sentence structure.

In teacher practice, this involves logical sequencing of topics, progression of activities, and regular review and connection of supportive materials. Using strategies such as driving questions can help promote curiosity and guide exploration, encourage reflection on learning, and facilitate cyclical revision (of teaching steps) based on student feedback. It has been shown that methodical continuity is gaining importance even under changed teaching conditions (in connection with the pandemic). In the case of online teaching and learning, a mutually competent approach from both the teacher and the learners is essential.

Key findings from the research highlight the importance of:

- Redistributing power between teacher and student, shifting from directive instruction to a more collaborative, discursive approach.
- Teaching practices such as driving questions, reflection, and revising teaching steps facilitate a more student-centred learning environment.
- Fostering interpersonal interactions and relationships that contribute to effective teaching and learning processes.
- Ensuring the availability of high-quality, diverse, and thematically cohesive learning resources.
- The teacher's continuous receptivity to students' needs and feedback.

The research emphasises that the teacher plays a crucial role in driving these changes and facilitating the transformation of teaching practices in (English language) education.

Conclusion

Constructionist teaching and learning allow for a relativistic, non-structural view of teaching and learning content. Such teaching and learning are practical (inductive) and socio-critical (participatory) processes, meaning they are carried out by the teacher systematically, attentively to detail, and through intensive cooperation or, moreover, collaboration. This cooperation/collaboration is not aimed at deriving a descriptive (statement) of the studied phenomenon or solely verifying a hypothesis, as in the case of behavioural teaching, where the learner is reduced to a variable (standing outside of the educational reality). Instead, it focuses on an in-depth (co)analysis of the studied phenomenon/problem from a holistic perspective (based on present elements/context). The task for the teacher is to understand how the learners, the actors of learning, perceive the studied phenomenon, social situation, and the reasons that lead them to, or prevent them from, specific actions within their learning. A change in the concept of teaching highlights the need for a teacher-researcher who seeks the social causes and sources of the construction of the learners' and his view on teaching/learning. The teacher-researcher aims to discover the "social apparatus and social structures" accompanying this process. The structures of the thinking process are analysed by seeking answers to further questions, i.e. what are the (possible) causes of intentional teaching/learning actions? What are the socially constructed schemes of meaning from which the learners and/or my thinking and actions arise?

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