PEDAGOGY OF SOCRATIC METHOD OF TEACHING ESP

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Abstract. Methodology of teaching English for Specific Purposes today is often referred to as eclectic, drawing from various available, established resources and imparting personal lecturer’s standpoints on how and why to teach. Hereby, we advocate and illustrate the use of Socratic method in teaching ESP, with the main arguments addressing the fact that its application at once enhances students’ disciplinary genre communicative skills, the very domain knowledge, and higher order thinking, transversal skills, all directly relevant for their designated professional environment. Socratic method of intellectual exchange also allows for an overall mental and psychological development, strengthening students’ self-awareness and self-confidence. All these advantageous features contribute to students’ success and overall well-being in their professional and scientific environment.

Key words: Socratic method, domain knowledge, ESP, communicative skills, higher order mental skills

1. INTRODUCTION

Learning in institutional context is the process of transferring knowledge from teacher to student(s). It is primarily directed at student. This is hard work as it requires insight into psychology of the recipient, their learning style, motives. It implies catering for those, finding most adequate, most pleasant and most effective ways to successfully accomplish the teaching process. Learning is a conscious effort of the student to adopt the content material taught. In its deepest sense it is an intellectual and psychological makeover, almost like violence on oneself in changing themselves.

What is the essence of the teacher’s role in this demanding and delicate process, as the one who is a carrier of knowledge? How should teacher conceive of their own task – coming into class, lecturing, giving assignments which are like hurdles students need to overcome. Students may, and do have difficult times in this process, and teacher’s holy duty is to make students aware of their inner change, and to make it more acceptable for them. Those tasks form tension in the mind (and body), but through studying that tension is transformed into knowledge and skills.

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The teacher needs to find a proper way to release that tension and raise students’ awareness of the profound need for the knowledge presented to them in order to ensure their future and occupy a proper place in the society. This ‘proper way’ means teacher’s finding adequate methodological and pedagogical approach to their work, which essentially relates to finding ways to make studying pleasant, indulging freely in the ability to overcome obstacles and obtaining desired results. For that to be achieved, the teacher needs to be a guide in the labyrinth of knowledge. This is the basis of our teaching methodology and pedagogy as we will present it further.

*If we consider the first edition of English for Specific Purposes: A learning-centered approach by Hutchinson and Waters in 1987 to mark the systematic, comprehensive layout of the ESP practice in its major aspects, methodology of teaching is claimed to be “an approach to language teaching in which all decisions as to content and method are based on the learner’s reason for learning.” Although by current academic standards old references preferably should not be over ten years old, this book is still a referral point. Thus, we remember claims presented there – ESP arouse with the turn in pragmatics away from “what people learn” to how, which marked the shift from language-centered to learning-centered approach to teaching. ESP however does focus on the what, yet in the completely different manner from the content that preceded its appearance as a coherent approach. It is equally centered on the content – we will term it domain related content, in which the needed genre with all its linguistic characteristics is reflected. Developments in educational psychology in the latter half of the twentieth century put into focus the awareness that for the teaching process to be successful, individual rationales of students need to be closely observed and catered for. This diverged into a personalized approach and into investigating personalized motivation for learning, later termed needs assessment. Needs assessment makes ESP equally a ‘learner-centered methodology’.

Learning centered methodology as initially stated cannot be successful without profound attention to the learners, their personalities, learning preferences, capacities, talents, and alike. Advantages of learning-centered approach have long been recognized and utilized in improving motivation for developing language skills. The contribution to students’ overall psychological and mental betterment has also been clearly noted, as this approach leads to their awareness of the relevance of gaining clear insight into what they are studying and how, consequently leading to their own independence in the learning process. This in turn, is the precondition of acquisition of one of the crucial 21st century skills, namely that of independent, life-long learning (Van Vliegen & Russell 2019; Villacís & Camacho 2017).

Focused on both the learner, their profile and needs, and consequently the very learning process, ESP methodology thus is concerned with building a conceptual and structural framework for holistic and authentic learning for particular domain discourse community purposes, to integrate requisite communicative competencies and discipline-specific content. Actual methodological approaches may include experiential, communicative, collaborative learning, integrative forms of instruction, such as research-evidence, competency-performance, process-production, problem-project based, through various

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1 The ‘what’ used to refer to traditional content mainly relating to teaching grammar and general vocabulary.

2 Not claiming to be the first to state this.
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activities, primarily simulations of real environment ones and case studies (Bazanova et al. 2013). This way allows for attending to learners’ needs through meaningful simulation of actual language and content in the workplace (Lyster 2017). All this positively affects students’ motivation for learning, self awareness of their talents and skills (Beckett & Slater 2019), their autonomy.

These tenets, hereby briefly revised for the purpose of revision, have led to appearance, delineation of particular approaches in ESP, all within this umbrella approach. Such may be considered Content Language Integrated Learning, Problem Based, Task Based, and more. It is not our intention to enumerate them here and so remind practitioners of them, as it is our firm belief that is superfluous. Instead, this short introduction is to serve only as a reminder of the foundational instructional format within which we are suggesting Socratic method to be more widely utilized, claiming it fully responds to the most relevant aspects of ESP teaching.

This method at the same time teaches and supports transversal skills of active learning, critical thinking, independent learning, deduction, enhances organizational and thinking skills. Active learning is a process by which students are directly involved in acquiring knowledge (Conrad & Dunek 2012) which fosters students’ own conscientious engagement with their own learning, thus assisting in their better self-awareness and self-confidence. The fact that questions are posed to a group of students implies there will be a diversity of views which makes this method inclusive. In such an environment, then, it is necessary to apply critical thinking and analysis to discern the right answers. This also leads to increased creativity in thinking. This is a method of encouraging students to actively educate themselves. Parallel to the idea of active learning, and following in the spirit of the Socratic method, is the idea of active openmindedness developed and perfected through organic thought and discussion. Finally, this is a constructivist pedagogical approach which presents knowledge as a symbiotic interaction of teacher and student, of self and other, thus influencing the sensation and the conscious realization that meaning and all human activities are performed in relation to oneself but also the community. Furthermore, we claim this allows for the higher awareness that reaches beyond the polarity of ‘right’ and ‘wrong’ answers in finding, realizing and articulating arguments, beliefs, hypotheses. This is directly relevant for students’ developing creativity of thinking and learner agency, crucial mental skills relevant for the contemporary workplace. In this way, students are able to transpose their knowledge into practical skills required in the global marketplace.

2. SCROTATIC METHOD OF INSTRUCTION – LEARNING CENTERED METHODOLOGY

The ancient model of instruction, and its contemporary invocations, diametrically differs from the teaching model in which professor delivers the content in the form of a lecture presented as a unified narrative, which students are to memorize as such⁵. Instead, Socratic method of instruction centers upon active guidance of the professor who by asking students sequences of broad, open questions related to the required topic (content material), makes them engage their higher order thinking and cognitive skills by which they arrive at their own unveiling, discovery of the content knowledge. In this way, students are at the same time taught domain content knowledge, its appropriate linguistic

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⁵ Educational and political philosopher Jacques Rancière (1991) in his famous concept “lesson on the lesson” claims explicit, traditional lecturing is directly correlated with decrease of curiosity and motivation in students.
expression, and crucial skills of critical thinking and self- or active learning. Socratic method, also called Dialectic, is at present well-established instructional method across disciplines, most notably in law education, political science, and economics, as they predominantly deal with developing skills and competencies of presenting and defending opinions, reaching agreements. Traditionally, this method is also associated with finding, correcting logical fallacies, by presenting logical coherence and infallibility (F. Lam 2011). Yet, it is present in almost all fields of science today. Its primary aim is the perfection of logicality in students by promoting dialogue interaction of challenging questions and perfecting answers, both guided by employing critical skills in order to explore the given topic and come to a well-reasoned conclusion.

2.1. Three stages of Socratic method of instruction

Core of this methodological process are three stages. In the first, professor is giving an informative introduction and setting a background to the topic under scrutiny, presenting the topic itself, its relevance for the course and the overall scientific field, its relationship to the other syllabus segments, students' previous knowledge, explaining the central point of the joint investigation to follow. This is a foundation to which students can relate in the following stages. Focal point of this type of instruction is the second stage, questions and answers phase in which professor begins and conducts their lecture by initiating a set of open questions related to the subject. The answers then form the actual content of the lecture studied. Final part is rounding up the topic, again by answering inquisitive prompts. This is when the professor can and should commend students' proactive stances and their results, and in this way help affirm their personality and self-confidence.

In the phase when students are challenged with the task of generating answers, it is often they make mistakes either referring to actual content, or reasoning flows. The inclusive interaction nature of the setting then provides opportunities for mutual corrective and supportive actions among students to guide their thinking into a more accurate line of cognitive processing (Szypszak 2015). This series of questions, cross-examinations, arguments and counterarguments (Boghossian 2012, Davies & Sinclair 2012), is characteristic of its method throughout its history. Through pointing out to possible false reasoning either by the professor or peers, students themselves discover the reasoning or domain knowledge related errors they have made and then reconsider and reformulate it on their own, thus making this practice the highest form of learning – self learning. While gaining mastery of the subject, students gain confidence in their own reasoning abilities and communicative skills – how to transfer their knowledge most effectively.

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4 Ability to formulate logically sound, justifiable arguments is of paramount relevance for successful work of a prospective lawyer. Thus, a legal education centers upon instilling reasoning ability in students. Main notable method, most widely recognized and recognizable even to laymen, has traditionally been case study, which in essence is a derivate of Socratic method.

2.2. Types of questions used in Socratic method

The application of Socratic method broadly subsumes three types of questions, namely, focused, exploratory, and spontaneous (Paul and Elder 2008). Professor begins the teaching process with focused ones, this is how they open the dialectic interaction, by inviting students to ponder upon the very topic under investigation. In this opening section, focused questions are needed to make students formulate and define the issue at stake and argumentatively support it, all based on their previously acquired expertise in their domain. Once this is achieved, exploratory questions are asked. Their purpose is to help students elaborate on the investigated concept by illuminating it drawing from the related domain knowledge they already possess, that is activating prior knowledge. This activation is essential in all teaching methods, as progressing in understanding is necessarily a scaffolding of acquired and new insights into the matter investigated. Understandably, during this whole process, in order to (re)direct students’ thinking, to make them revise their findings, correct them, prompt them to explore further in some particular direction, professor asks spontaneous questions. Finally, once the whole concept has been properly and thoroughly investigated, and the body of students’ answers form a coherent, profound, well rounded whole on the given subject, focused questions are employed once more in order to summarize the concept.

3. SOCRATIC METHOD IN TEACHING ESP

3.1. Traditional teaching of ESP through content knowledge based texts

We will focus on work on text units as carriers of ESP syllabi. Text units are designed in such a way as to reflect the genre of the representative domain topic in terms of lexis, phraseology, grammar, morphological, syntactic, rhetorical structures. Those are potent texts as they at once present domain related content knowledge and its adequate linguistic formulation. The mastery of design of these texts lies in the fact that they successfully simulate the best practice of linguistic formulation of content, reflecting the inherent logic of the very science the content is about. In real practice this concentration of ideally required qualities is too rarely met. Obtaining adequate, quality textbooks is ultimately difficult. Instead, ESP practitioners resort to combining excerpts from various sources, though even getting hold of different material is a significant effort.

In ESP, when dealing with a text unit on a domain topic, traditional ‘delivery’ approach on the part of the ESP lecturer is often, if not always, perceived inappropriate. Delivery method would mean them teaching on content unrelated to linguistics and thus completely outside their expertise. Teaching a unit on students’ domain would possibly appear awkward, justifiably incompetent, and strange to students. It would mean lecturer previously learning the unit ‘by heart’ and upon delivery unable to answer probable, domain related questions on the part of the students. This would only diminish the relevance of ESP course and lecturer’s position in students’ perception. Instead, most often lecturing on text units implies reading, checking for new words, translation, comprehension questions, summarizing, discussion, various exercises based on the text. Units are presented and worked upon from purely linguistic, communication based, pragmatic side. Thus, teaching methods include grammar-translation and communicative as most frequent (Tenieshvili 2023). Content knowledge is used to learn vocabulary through translation, various exercises like fill-in-the-gaps, making
sentences using lexical prompts, etc. The very content is dealt with to check understanding, through for example, reading comprehension questions, summarizing, paraphrasing. Questions for discussion, for giving opinion are usually found at the very end of the unit, and serve to fully activate the acquired language knowledge and skills on the studied topic.

3.2. Application of Socratic method in teaching ESP

The thesis we propose hereby is that teaching ESP linguistic knowledge through content based texts can be performed by elicit[ing students’ content knowledge related to the text], in a radically different approach from the traditional way, with manyfold benefits for the overall education of students. The application of Socratic method in an ESP setting activates both content and linguistic knowledge in students, prompts them to come to new solutions in both fields, and activates cognitive capabilities.

3.2.1. Application of Socratic method on domain content

Here we propose an example of how to present a new textual unit that deals with some aspect of domain content knowledge. The lesson begins with the lecturer announcing the topic and starting asking questions about it. It is crucial that the order of the questions follows the rhetorical order of scientific discourse that students are to adopt during their English language instruction. Work on rhetorical structures relevant for scientific discourse is done at the beginning of the English language 1 course so that as the content of the course progresses, students are well enabled to apply those rhetorical principles. The scientific rhetorical models of communication are heavily insisted upon during the whole process of instruction. This shows that the desired output of the courses is to prepare students for further dealing with science, independently, for being able to follow scientific and professional advancement and equally being able to present their own findings, results, in a standardized format, and therefore to equip them with the skills required for high profile jobs. At the onset of dealing with structures of speech, the order and format of presenting ideas, arguments, theses, explanations, etc., students are explained repeatedly two important reasons for this work. First is that this is the overwhelming feature of scientific discourse and is therefore present in most communicative situations, from a short answer in a discussion, to an elaboration presentation of the work done. They are taught to be members of the genre community and made aware of this. Second reason is the intention for them to comprehend that this scientific genre actually stems from the logic inherent in the science itself, that the language mirrors the rational organization of the scientific thought. Mastery of this type of communication at once proves mastery of the domain knowledge.

The rhetorical model for defining is based on Aristotle’s premises of how to define an object/idea as presented mainly in his Metaphysics. It can be subsumed as follows, the issue at stake needs first to be categorized or classified, or plainly said – determine whether it is an object, a being, an idea, etc. This is to be followed with a characteristic

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6 The authors do not claim this overview of traditional ESP teaching approaches to be ultimate and exhaustive, rather illustrative of common practice.

7 Practical aspect of this hypothesis has been applied and tested at the University of Niš, Faculty of Electronic Engineering, Serbia. It has been developed through many years of practice and is now consistently used. The courses English language 1 and English language 2 are both obligatory for all students and are within the third year of undergraduate studies.
that differentiates it from the rest of the class, what its specifics are. The questions that
the lecturer poses are of the type – What is ...? To which class of software does ... belong?
What are the constituent elements of ...? What are the functions of ...? These are prompt
questions, and they are based on the topic of the text unit.

Once the students start this practice, they spontaneously join in. One student gives an
answer to lecturer’s question and then the others start filling in, adding, pointing to
particularities not covered by the initial definition given. This then develops into a group work
which tightly resembles, simulates team work in a professional setting – and this they are
explicitly told. At each stage of the work, the lecturer’s teaching philosophy is to make
students aware of the actual benefit of the particular practice work. During this, students add
information, data, insights to what one of them has said – activating their domain knowledge
while practicing communicating it appropriately. Then, someone introduces a different angle
of conceptualizing the same issue and present the advantageous differences in relation to the
one previously proposed. These varieties of perspectives again is beneficial for expressing
nuances of the content knowledge they already possess. Regarding communicative
competencies this is further practice in argumentation and counterargumentation, and
professional/scientific exchange.

Employment of Socratic method per se means work on content knowledge and critical
assessment of it and its presentation, namely questioning the validity, substantiality of
how and why it is put forward. This is learning and employment of higher order thinking
skills, one of those being critical thinking. Facione defined these as “judging in a
reflective way what to do or what to believe… Critical thinking is judgment, reflective,
and purposive” (Facione 2000, p.61-62), and they are employed in processes of defining,
analysis, evaluation, interpretation, self-evaluation/correction.

In a higher education setting where students already possess a significant insight into
the domain they study, this method of lecturing is particularly suitable (Peter & Elder
2008). This teaching method firstly subsumes engaging students in an environment that
demands constant intellectual alert in responding to teacher’s prompts. Those questions
are not, and should not only be such to elicit the knowledge they already possess, but of
the kind that requires them to employ higher order thinking skills, namely, comparison,
alogy, deduction, and alike. Students are to be asked to make further insights,
conclusions, assumptions, from the pool of knowledge they have gained that far
(Eschevarria, Vogt, & Short 2012).

Students are invited to reflectively assess their knowledge in relation to the question.
This means employment of their range of critical mental skills and their further
perfection. Facione defines them as “judgement, reflective, and purposive” (Facione
2000, p. 61-62), and categorizes them into following skills: interpretation, analysis,
evaluation, inference, explanation, and self-regulation (self-evaluation). Critical thinking
can be viewed as a process of employing these skills. It certainly starts with interpretation
of the set questions when students are faced with the question with which they engage in
such a way as to comprehend, mentally internalize its complete meaning in all its
possible aspects. Further on, once these pieces of information are analyzed, that is
inferential relationship among those are found, on the basis of which the judgement on
the issue in question will be formed. Analysis is the mental stage when the issue under
scrutiny is perceived related to the existing pool of expertise. This is followed by
evaluation stage in which student cognitively determines credibility, value of the
statement or question posed and then prioritizes information they are required to come up
with accordingly. Afterwards, the skill of inference is exhibited, which refers to moving to the final answer with all the information processed in the previous mental stages, that is extracting conclusions – the answers wanted by the professor. These stages of interpretation, analysis, evaluation, and inference make the student understand the question properly, analyze it in terms of what it is concretely about, how it relates to their expertise and how they should approach it to find the answer. Once this is achieved, explanation is needed to prove the validity of the finding, that is stating the rationale for the answer or decision and conscious reflecting on the particular use of the critical skills employed. Finally, through interaction with the professor, and/or other students, the overall validity of the answer is assessed and the student who proposed it can monitor their own performance. This is the self-regulation stage (Ignatavicius 2001).

3.2.2. Socratic method in dealing with new vocabulary and grammar

Regarding work on lexicogrammatical features of the disciplinary genre, Socratic method is extensively exploited, yet unrecognized as such, but under the name of deductive learning which actually is one of its aspects. Namely, when presented with a text, and thus a context, dealing with new, unknown words for students is often done by asking them to try and grasp the meaning from the meaning the surrounding text. Prompting this insightful thinking of students activates both their linguistic knowledge and their cognition. They adopt that semantics functions in relation to the surrounding. The professor’s questions thus would guide the students to conclude the possible meaning of the unknown word or phrase by referring to the meaning of the text around it.

Much the same applies to work on grammar. This method can be applied in both presenting new grammar units and dealing with mistakes made by students. In either case, this relies on the previously acquired knowledge. New grammatical content can therefore be taught using Socratic method in the following manner. If a case of a tense, for example Present Perfect Continuous, professor could extract a sentence containing it from the text. First, they could also ask about the meaning, prompting students to guess – deduce it. Then, proceed to make students guess the name of the tense by comparing its structure to what they already know about tenses, namely, there is a perfect tense element and a continuous tense element. Students would not have hard times figuring out the name of the tense. From that, the question would be directed towards deducing the meaning of the tense that has both perfect and continuous aspect. This would be a fine practice for students to fully comprehend the actual message and the nuances of meanings that tenses communicate. This way, as S. Canagarajah (2014) claims, students gain insights into the logic of the language, and so adopt it for actual usage. There is also an element of metacognition present here, the self-monitoring of the learning process, again of crucial importance for the competitive professional environment.

4. Conclusion

Through this type of work, students master manyfold aspects of the scientific genre, and perfect crucial transferable skills. Through scientific rhetoric they practice, adopt or confirm the notion of the logic of sequencing facts, data, namely, the core order of scientific information presented in both written and spoken scientific discourse. Conscious cognition of this correspondence of communicative expression and domain content
features ensures successful outcome of the language instruction in the scientific and/or professional setting. Practice of how to linguistically, in a particular social setting acceptable way formulate inquiry, argumentation, defense or refuting of scientific stances or hypothesis, is actually the way genre is learned. At the same time, students check and deepen their domain knowledge, through professor – student and student – student interaction. In this practice of questioning and giving answers, their self-awareness and self-confidence is checked, and ultimately strengthened. All this relates not only to success in the acquisition of scientific genre, but equally to forming forward-thinking individuals who truly contribute to the advancement of a society (Canagarajah 2014).

Using Socratic method in foreign language instruction in HE places the learner themselves are in the center of their own learning experience, which is the precondition of learning to reflect upon their learning scores, certainly thus enhancing their critical and self-evaluating skills. This approach thus may be the singular, most relevant way for preparing students to be confident in the ever shifting global job market where inquiry in all its forms is the mental asset always and everywhere demanded.

Therefore, Socratic method in ESP allows for integration of discursive competence and domain knowledge in an appropriate socio-pragmatic communicative event (Bhatia et al. 2011). Benefits of this type of teaching as regards mental and psychological abilities of students are manifold, complex, and interrelated. Firstly, as a scaffolding process of learning that centers upon students’ cognitive realization of the target knowledge. Cognition is inseparable from linguistic formulation. In this sort of lecturing and practice at the same time, both competencies are perfected. This is an outstanding benefit of this instruction model and our axial argument for employing it in ESP.

The entirety of higher educational institution curriculum has for its declared output improvement of higher order thinking and social, soft skills. These need to be reflected in the syllabus of each course. Hereby we prove how this is achieved in Socratic approach to teaching ESP, which is then one of the ultimate proofs of its validity. We emphasize these skills are integral segment of higher education outcome. True education does not refer only to domain knowledge, quite the contrary, it is assisting young people to develop into professionals fully able to comprehend the dynamics of the society they will join upon obtaining a professional post.

During our classroom work using Socratic method, employing critical thinking in particular, the authors, together with students, through argumentative mutual consensus, use the term ‘collegial exchange’ instead of debating. This is to emphasize the desired and needed essence of humanistic approach to learning. We learn in community, in relation to others, we exchange and complete one another. The focus is not to prove one is right, as debate often suggests and comes to, yet to enrich oneself by questioning, accepting the novel perspective insights from another. Setting the stage for communication practice in this way directs further communication into a humanistic, cooperative manner, which is the desired way, much in line with Socrates’ beliefs of how learning happens. Collegial exchange way that we propose makes students consider carefully the way they pose their enquiries, to balance open questioning without nuances of attitude either towards the issue at stake or the speaker. At the same time, it implies managing one’s own internal processing of an answer that possibly opposes one’s opinionated strongholds. Communicative and communication skills are perfected through practicing awareness of the implicit effect of one’s utterance. This in turn develops students’ awareness and motivation for continuous self reflection in relation to others, perfecting their social skills and their self awareness. This is how this type of work contributes to students’ overall well-being.
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