

SORGULAMA TEMELLİ YÜKSEK TEKNOLOJİ YAKLAŞIMI: ÖĞRETİM DENEYİMİ

Eda Şenöz - Melek Alpar

Öz

Bilgi İletişim Teknolojileri (BİT), günümüzde dil sınıflarında birincil önem kazanmıştır, o kadar ki bugün her sınıfta her öğrencinin kitaplarının yanında teknolojik bir cihaz bulunur. Ayrıca, her sınıfta internet bağlantısı sağlanmaktadır. Özellikle dil sınıfları internette farklı şekillerde faydalanmaktadır. Sorgulama temelli yaklaşım ve teknoloji iç içe geçmiştir. Bu yaklaşıma sorgulama temelli yüksek teknoloji yaklaşımı deniyor. Sorgulamaya dayalı yüksek teknoloji yaklaşımı, öğrenenlerin üst düzey sorgulama ve keşif yoluyla gerçek hayatla bağlantı kurmalarını sağlayan bir öğrenme sürecidir. Öğrenenler, sınıflarda teknoloji kullanımı yoluyla kendileri deneyimleyerek ve problem çözerek keşfederler. Bu bağlamda, bu çalışmanın amacı, bir dil sınıfında sorgulamaya dayalı yüksek teknoloji yaklaşımı ile öğretim deneyimini ortaya çıkarmaktır. Sorgulama temelli yüksek teknoloji yaklaşımı, girişin ardından üç genel aşama üzerinden uygulanır: sorgulama için ısınma, veri toplama ve genel değerlendirme. Uygulanması için belirli bir düzeyde dil bilgisi ve motivasyon gerektirmesine rağmen, özel ihtiyaçları olan öğrenciler olsa bile uygun bir öğrenci grubuyla mükemmel bir şekilde çalışır. Öğretmen bir rehber haline gelir ve öğrenciler kendi öğrenme süreçlerinin aktörleri olurlar.

Anahtar Kelimeler: BİT, Öğretim Teknolojileri, Dil Öğretimi, İYÖ, FYÖ.

INQUIRY BASED HIGH-TECH APPROACH: TEACHING EXPERIENCE

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Abstract

Information Communication Technologies (ICT) have gained primary importance in language classes since today each learner has a technological device beside their books in the classroom. Moreover, internet connection is provided in every classroom. Especially the language classes benefit from the internet in different ways. Inquiry-based approach and technology are intertwined. This approach is called the inquiry-based high-tech approach. The inquiry-based high-tech approach is a learning process engaging learners in making real-life connections by high-level inquiry and discovery. Learners discover by experiencing themselves and solving problems through technology usage in the classrooms. Hence, the aim of this study is to reveal the experience of teaching with the inquiry-based high-tech approach in a language class. The inquiry-based High-Tech approach is applied through three general phases after ice-breaking: warm-up for inquiry, data collection and general overview. Although it requires a certain level of language knowledge and motivation to apply, it works perfectly with a suitable group of learners even though there are learners with special needs. Teacher becomes a guide and the learners become the actors of their own learning processes.

Keywords: ICT, Teaching Technologies, Language Teaching, EFL, FLT.

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Introduction

In today's classrooms, mobile phones and other information/communication devices are on the desks, beside the course books and pencil cases. Yet, they are not usually integrated into the teaching/learning process as an educational tool. However, today, "digital skills are considered among the main skills that are aimed to be developed in school education" (Bozdağ, 2017:44). Therefore, it is important to use information communication technologies tools (henceforth ICT) throughout the curriculum (Koçak-Usluel & Demiraslan, 2005:134; Mazman & Koçak-Usluel, 2011) to achieve instructional goals and enhance learners' learning, hence their integration into the classroom environment.

ICT are what teachers and learners utilize to help achieve the intended learning objectives. Moreover, ICT have many benefits in language classes such as proposing different materials to teach a topic, providing teachers with rapid feedback to learner productions, reaching adaptable contents suitable for learner needs and levels, and giving an opportunity to use the target language in meaningful contexts (İşisağ, 2012). Furthermore, it gives language learners access to rich, varied learning environments that let them communicate digitally with other learners, communicate with native speakers, and use real resources (Chapelle, 2003; Felix, 2001; Mullama, 2010). Lubis (2018) underlines that multimodality, by combining various learning modes – aural, visual, verbal, online – will possibly enhance learners' awareness on self-regulated learning involving metacognitive skills to establish, manage, orient, and maintain their learning progress. In this way, learners have access to whatever they are curious about and whatever they would like to learn about a topic. Additionally, learner curiosity is the cornerstone of the inquiry-based learning and is best satisfied through it.

Since Socrates, inquiry is an approach to discover. "Through inquiry-based learning, learners undertake real problems, issues, and questions, consult with experts and authoritative sources, work collaboratively to improve ideas and products, and use elaborated forms of communication" (Friesen & Scott, 2013). As can be seen from this definition, the inquiry-

based approach and technology are intertwined. In this context, the aim of this study is to reveal the experience of teaching with the inquiry-based high-tech approach in a language class.

Inquiry-Based Teaching and Learning

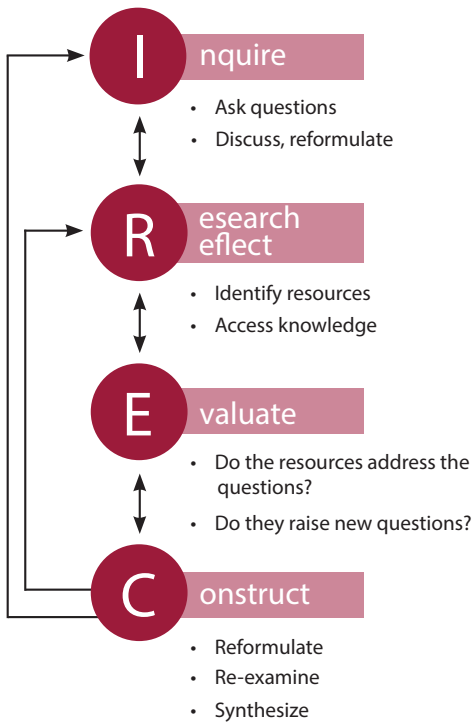
An inquiry-based approach is a teaching and learning approach in which the learner is in the centre as an active researcher in the process. It is based on learner inquiry in the subject matter and problem-solving. While in a classical classroom the teacher is the source and presenter of knowledge, in the inquiry-based approach knowledge is discovered by the learner himself/herself, and the teacher is the assistant and guide in the learning process. Teachers initiate the learning process by providing learners with a variety of scenarios, questions, and challenges instead of directly presenting information or the solution.

According to meaningful learning constructivism, new knowledge is acquired being structured in the mind and being connected with the knowledge previously acquired. Therefore, the subject taught should have meaning for the learners, which means the information must correspond to a question and a gap in learners' lives.

Friesen & Scott (2013) cites from Hattie (2009:208). "that inquiry-based teaching is the art of developing challenging situations in which students are asked to observe and question phenomena; pose explanations of what they observe; devise and conduct experiments in which data are collected to support or contradict their theories; analyse data; draw conclusions from experimental data; design and build models; or any combination of these".

Generally, inquiry-based learning cycle have five global steps proposed by Bruce: ask, investigate, create, discuss, and reflect (Abdelraheem, & Asan, 2006). The types of inquiry-based learning/teaching are different, one of which is 5E model that includes: engagement, exploration, explanation, elaboration, and evaluation. Each of these steps are set up on the previous

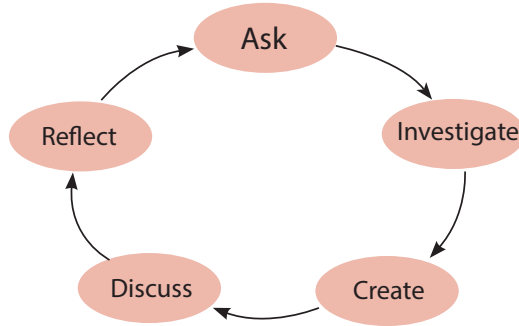
one. Thus, “inquiry-based learning is a practical method for establishing the connections between prior knowledge and scientific descriptions of natural world” (Panasan& Nuangchalerm, 2010:253). Another way of teaching with the inquiry-based approach is the structured inquiry where “the teacher provides the input for the learner with a problem to investigate along with the procedures and materials” (Abdi, 2014:38). Ai and all. state the phases of the inquiry-based teaching as follow:



In this way, the learner is ready to inquire openly by coming up with their own problems or questions related with specific subjects, skills, or realities.

1.1.Inquiry Based Learning Cycles

To make the cycle provided by Bruce more tangible and comprehensible for every instructor, we have opted to implement it:



According to this cycle given above, the phases seem to be linear; however, they may not follow each other in a linear way. “Each step can be embedded in any of the others, and so on” (Bruce, 2008). Indeed, because of the interconnected structure of the inquiry process, these processes mutually strengthen and influence one another. Hence, contemplating the resolution of an issue can result in the restructuring of the problem itself or the introduction of a fresh problem. Likewise, the actions we take in the world are intricately connected to the conversations we have with other people.

Although the process may be complicated, the defined steps and cycle can effectively highlight topics that are otherwise challenging to comprehend. It emphasizes certain parts of the investigation that require assistance in a conducive learning environment.

1.1.1. Ask

Posing inquiries serves as the gateway to knowledge, acting as a barrier that separates one’s current state of understanding from the path towards enlightenment gained via personal encounters. Posing a question entails actively engaging in a situation, either by direct participation or as a

member of a community. Therefore, rather than responding to someone else's inquiry, we invent our own question and investigate it, leading to the acquisition of more enduring information.

The questions posed in inquiry-based learning are complex and open-ended. Put simply, the questions should not be ones that can be easily answered by the learner with a simple yes or no by using Google. For instance, "Is Paris the capital of France?" is not a suitable question for inquiry-based lessons. Inquiry is not always contingent upon the initiation of a meticulously constructed inquiry. Inquiry can also emerge from discussions in which learners engage and the activities in which they interact with others.

To enhance meaningful and valuable learning, it is crucial to ask deep and relevant questions. The primary goal of inquiry-based learning is to cultivate critical thinking and problem-solving abilities by motivating learners to actively explore and research subjects that capture their attention.

1.1.2. Investigate

This stage encompasses inquiry-based learning, wherein learners actively participate in the process of discovery and strive to find solutions to various questions. During this stage, learners are seen as 'explorers' who actively engage in investigation as the main participants. This stage represents the transition from arousing curiosity through questioning to taking action. During this stage, learners collect data, analyse it, perform experiments, observe, or conduct interviews to resolve their inquiries. Here, the learner's initial inquiry can be rephrased, elaborated, or investigated further with additional information that was not initially taken into account. At this point, the learner assumes full responsibility for the process and encounters a substantial increase in their internal drive.

1.1.3. Create

Create refers to the process by which the learner combines the information gathered during the research phase to build a new structure and mental creation. In essence, this approach involves actively creating based on the knowledge and experiences acquired by the learner, in collaboration with the learners they work with. The knowledge that is gathered during research starts to establish connections in the learner's mind. Bruce (2008) underlines that "the ability at this stage to synthesise meaning is the creative spark that forms new knowledge". The learner incorporates novel ideas, personal experiences, and critical evaluations into their own reservoir of knowledge and experiences.

1.1.4. Discuss

"The process of presenting findings of particular phases or the whole inquiry cycle by communicating with others and/or controlling the whole learning process or its phases by engaging in reflective activities" (Pedaste, Mäeots, Siiman, de Jong, van Riesen, Kamp, Manoli, Zacharia, Tsourlidaki, 2015). While questioning, investigating, and generating ideas are solitary endeavours, engaging in discussions involves the participation of others. Inquiry-based learning involves a stage where the learner actively engages with society. In this context, the learner actively engages in the process of listening to his peers and synthesising the knowledge he receives from them with his own thoughts and ideas. Therefore, knowledge takes on a social dimension in its creation. The learner disseminates the knowledge he has gained to others and inquiries about their understanding of the subject matter. Boğar (2019:97) states that "in this stage, the knowledge is shared with other individuals, and the results are compared".

Knowledge exchange commences a social construction process. The meaning of research is enhanced through its dissemination to the community. Society is presently immersed in the knowledge that is produced and distributed within educational settings. Learner-shared knowledge pertains to the cooperative development of understanding within a classroom community; the significance of an individual's research is amplified within the classroom community. At present, learners

partake in the endeavour of exchanging information, discussing personal experiences, and evaluating results through a multitude of communication channels, including but not limited to online forums and social networks.

1.1.5. Reflect

Learners consider the research procedure and results of their own. The act of thinking is predicated on uncertainties. As a result of recognizing deficiencies and uncertainties during the process of reflection, novel research can emerge. Reflection encompasses the complete inquiry process, including each phase from its inception, and reassesses decisions as needed. Has a resolution been achieved regarding the original inquiry? Have further inquiries been presented? Questions are asked to initiate the asking procedure once more. Hence, it is more a processed focused action than the result. Reflection is an essential component of learning that is based on inquiry. It entails taking a moment to engage in critical reflection on one's process of learning, experiences, and results.

On the other hand, metacognition refers to the process of reflecting on one's own thoughts, which is known as metacognition. Through introspection of their learning process, learners have a heightened awareness of their aptitudes, limitations, and approaches to learning. Developing this metacognitive awareness enables individuals to enhance their learning abilities and become more proficient learners as time progresses.

Enhanced Comprehension: Through the process of reflecting on their learning experiences, learners gain a more profound understanding of the content. They contemplate the rationale behind their decisions, extract insights from their inquiries, and strategize on how to utilize that knowledge in diverse scenarios. This enhanced comprehension beyond mere rote memorization and cultivates a genuine understanding of the subject matter.

Problem-solving Skills: Reflection enables learners to critically assess the problems they faced during their inquiry process and contemplate alternate

solutions. This rigorous assessment of their problem-solving approaches assists learners in honing their abilities and becoming more proficient in addressing intricate challenges in subsequent endeavours. Continuous improvement is achieved by engaging in reflection, where learners analyse their performance and identify specific areas that require development. They then establish goals to work towards enhancing their performance in those areas. Learners may become aware of misunderstandings they previously held or identify places where they need to enhance their comprehension. Through the establishment of objectives and the diligent tracking of their advancement, learners actively participate in an ongoing cycle of enhancement that propels their educational development.

Ownership of Learning: By engaging in reflection, learners assume responsibility for their educational journey. Instead of being passive recipients of knowledge, they actively interact with the content, challenge assumptions, and actively search for answers to their questions. This feeling of having a stake in their learning nurtures intrinsic motivation and a lifetime passion for acquiring knowledge.

Collaborative learning involves the collective reflection of learners, where they engage in discussions with their peers to share their experiences and views. By engaging in discourse and receiving criticism from their peers, learners get fresh insights and benefit from the experiences of their classmates. The act of collaborating on this reflection enhances one's ability to communicate effectively and fosters a sense of unity among the learners in the classroom.

Application to Real Life: Through introspection on the correlation between their learning and real-world scenarios, learners get insight into the practicality of their education outside of the academic setting. They comprehend the practical application of the skills and knowledge they get from inquiry-based learning to solve challenges and make well-informed decisions in real-life situations.

The combination of inquiry-based learning and reflection is a potent force that enables learners to develop critical thinking skills, cultivate a lifelong learning mindset, and engage actively in their own education.

1.2. Inquiry Based High-Tech Approach

This is the pedagogical approach that incorporates advanced technology into inquiry-based learning environments. In this context, “technology” pertains to the utilization of internet-connected devices, including laptops, tablets, smartphones, iPads, and smartboards. By means of high-level inquiry and discovery, learners are engaged in the process of making real-world connections as part of an inquiry-based high-tech approach to learning. Learners gain knowledge and understanding by engaging in problem-solving activities and utilizing technology in the classroom. It generally operates as follows:

Technology Incorporation: This methodology is predicated on the integration of numerous types of technology into the educational experience. This may consist of virtual reality, computers, tablets, interactive whiteboards, educational software, simulations, and more.

In contrast to conventional lecture-style instruction, the inquiry-based high-tech approach learning promotes learners’ engagement through the formulation of their own explanations, independent investigation, and questioning of subject matters. Educational instructors assume the role of facilitators, providing learners with guidance throughout the learning process as opposed to imparting content in a direct manner.

Active learning is facilitated by technology, which requires learners to actively interact with the material. To enhance their comprehension of a scientific concept, learners might engage in virtual experiments or participate in simulations as opposed to merely reading about it.

Learners are granted access to an extensive variety of information sources through the use of technology. These sources comprise databases, scholarly articles, recordings, and expert opinions. This affords learners the ability to engage in thorough investigation and research. *Collaboration and Communication:* High-tech instruments facilitate learner-to-learner and learner-to-teacher collaboration. This may involve video conferencing, online discussion forums, or collaborative document

editing, among other things. Learners develop critical communication and cooperation abilities through collaboration, which are indispensable in today's interconnected world.

Personalised Learning: Technology enables the development of learning experiences that are customized to the specific requirements, interests, and learning styles of each individual learner. By adjusting the level of difficulty of tasks in accordance with learners' performance, adaptive learning software can offer specific assistance and challenges when required.

Real-World Applications: Learners can observe the practical implications of their learning through the utilization of technology that simulates real-world scenarios. This enables them to comprehend the practicality of theoretical principles and equips them for prospective professions in domains that progressively depend on technology.

In general, an inquiry-based high-tech approach seeks to enable learners to develop into proactive, self-reliant learners capable of flourishing in a technologically advanced society undergoing rapid change.

Utilizing technology in inquiry-based teaching and learning has numerous benefits, including providing learners with authentic materials, increasing their activity and autonomy, maintaining their interest throughout the learning process, facilitating collaboration among learners, monitoring learning or learner errors, and promptly correcting them. Furthermore, it fosters critical thinking and profound learning, and is flexible enough to accommodate contemporary competencies such as information and communication technology literacy (Lynn, 2021).

2. Classroom Experience

Inquiry-based high tech approach teaching method has been applied to an English class during a month to teach different content in English. This chapter highlights the details of this application experience.

2.1.1. Learners' Profiles

Learners who took part in this application were aged between 11-13 years and they were all B1 level learners in a language course. There were 12 learners in total. The level of all of them were exactly B1, because in this language course, learners were placed in classes based on their levels after an oral placement test. There was one learner with special needs who had a brain surgery at an early age. He was quieter and more introverted than the entire class. However, inquiry-based high-tech approach motivated him to discover and study efficiently in pairs and alone. Although other learners were from different backgrounds, they were linguistically equal.

2.1.2. Inquiry Based High-Tech Approach Lesson Plan

A basic inquiry-based high-tech approach lesson plan has three general sections each of that is conducted within 50 minutes of lesson. Total lesson plan may be applied in three lesson hours which means in 150 minutes.

Firstly, as every lesson should start with, ice-breaking activity is done. Ice-breaking activity here does not necessarily mean to be related with the topic of the day. Then, the teacher introduces the topic/subject title and notes that on the board to limit it because the subject should meet the requirements of the curriculum and be limited so that learners do not lose focus.

Activating thinking skill is an important phase. To do that, the teacher provides some authentic material such as images or videos. At this stage, the teacher poses some questions to help learners discover the topic. Learners relate the images or videos with each other. This is a group class activity where learners discuss in a big group what they think about the images/videos. Meanwhile, the teacher may note the topic related vocabulary learners tell.

The following step is *question production*, so *inquiry phase*. The teacher provides either a mind map website, a printed empty mind map sheet, or a KLL table (what do I **know**, what will I **learn**, and what I **learned**)

on which learners would note down the main question(s). If a mind map is being used, in the middle of the sheet, learners would write the main question about the topic, the one or ones (there may be two main questions) on which they agreed during activating thinking skills.

Learners would start writing questions individually about what they want to learn in terms of the topic of the day and communicative objectives (these objectives will not be shared with the learners, but teacher will follow learners' questions whether they are in relation with the objectives).

The teacher will guide learners, perhaps might inspire them. This does not mean that the teacher will tell them a complete question; contrariwise s/he will help them discover the questions themselves. In the end of this warm-up phase the learners will have a break of 10 minutes usually.

The second phase is data collection, or *the research phase*. This is the part where the learners are totally autonomous and active, as well as where technology enters the game. The teacher will control whether each learner has tech equipment. If there is even one learner without necessary tech equipment, the teacher will pair them up, or if the learner number is suitable for a group of 3, the teacher will group them either randomly or pair a weak with a strong learner for the strong learner to help the weak learner. It is crucial that each group should have at least one tech device as well as the internet connection to be able to conduct their research. One necessary item could be headphones or earphones during research because groups should not distract the others while watching or listening to any data. During the research phase, the learners also record the vocabulary they discover.

The role of the teacher/instructor at this stage is that he or she will remind learners to write down the answers to their questions on the KLL table or the mind map. The teacher is a guide to help learners select the most appropriate material to avoid unnecessary data, by means of which learners will not be lost in an unlimited material pool. Another task of the teacher/instructor is that he or she should orient learners continue inquiry while studying.

At the end of this stage, the teacher will make sure that every learner or group has successfully completed answering their questions in their own words. It is not recommended that learners copy information they find on the internet, each learner or group should write the answers in their own words. It is also possible that the learners may prepare slides or support their answers with images when it is needed. If there are groups/pairs terminated the research part earlier than others, they may revise and edit their learning/answers while the others are still working on their research.

The last stage is *the general overview* where learners /pairs or groups share their answers with the whole class. In this stage the teacher or a learner may note on the board common ideas shared by each group and the vocabulary. To summarize all the notes and study the target vocabulary and grammar the teacher writes on the board some information gathered using target grammar and vocabulary. In this way the learners will also discover the grammar.

2.1.3. Application Experience

According to our experience, the inquiry-based high-tech approach is a successful method of teaching/learning a language. Although it requires a certain level of language knowledge and motivation to apply, it works perfectly with a suitable, motivated group of learners even though there are learners with special needs. It is so practical that it decreases teacher talking time in the language classroom and it increases the learner talking time not only through presentations at the end of the inquiry process but also through the research phase among group members. In this way a whole lesson hour turns into an oral production activity, which is one of the main objectives of a language lesson.

Nevertheless, it is important that the teacher becomes aware of his or her role in the classroom. The teacher is not the source of knowledge, but a guide to access the knowledge via useful materials. We have observed in our classroom that the learners need the orientation of the teacher in terms

of sites and materials where they find the knowledge. To choose reliable material is a big issue for the learners, this is where the teacher is needed, too. It is also crucial that the teacher should also have basic knowledge of the use of technology to remedy tech related problems in the classroom.

Our experience also showed that learners are more engaged and motivated to learn because they are the actors of their own learning, and they construct their own knowledge through research.

Conclusion

The utilization of an inquiry-based high-tech approach is a highly effective strategy to employ in a language school. It facilitates learners' concentration on the subject matter more effectively than in traditional learning settings, as they assume the role of information explorers through questioning, exploring, reflecting on their findings, and sharing the acquired knowledge with their peers. Sharing information fosters a collective body of knowledge, allowing peers to absorb and contemplate what they have learned from one another, so expanding upon existing knowledge.

Technology, on the other hand, facilitates inquiry by granting students access to information tools and resources, thereby ensuring their active participation (Mulder, 2014:3). Technological gadgets enable learners to access a diverse range of real materials, which can sometimes pose challenges in terms of selecting accurate facts to address their inquiries.

This is the situation where the instructor's guidance is required. He or she should assist learners in choosing reliable sources.

Inquiry-based high-tech approach classes naturally prioritize the development of four core language skills: listening, reading, writing, and speaking, as well as their respective sub-skills such as grammar, vocabulary, and pronunciation. Learners engage in activities that encompass the four competencies within inquiry-based high-tech approach courses. These activities are observable during the research, presentation, and debate stages. During these stages, learners engage in verbal interpretation

through reading and listening; writing through taking notes and preparing presentations, and speaking through delivering presentations and engaging in debates. Collaborative activities, such as working in pairs or groups, can significantly influence the development of listening and speaking abilities.

Furthermore, the data utilized by learners to respond to their inquiries holds significant value. Learners can listen to pure, authentic sources of the foreign language with an authentic native accent. This helps them correct their pronunciation errors and acquire a better pronunciation skill.

In terms of vocabulary development, learners determine the definitions of any words and terms they encounter while conducting data research by consulting a dictionary and recording the results. By following this method, learners can review vocabulary from the start. Not only subject related vocabulary, but learners may also come across other terms or vocabulary words while researching.

Learners develop a methodical approach to solving real-life problems via the practice of the inquiry-based high tech learning process. They will apply the skills acquired during lessons to real-life circumstances, thereby developing their analytical thinking abilities and natural problem-solving capabilities.

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Geniřletilmiř zet

Günümüz sınıflarında, cep telefonları ve diđer bilgi/iletiřim cihazları giderek artan bir řekilde ğretme ve ğrenme sürecine entegre edilmektedir. Dijital becerilerin okul eđitiminde geliřtirilmesi hedeflenen temel beceriler arasında yer alması, ğretim hedeflerine ulařmak ve ğrencilerin ğrenmelerini geliřtirmek iin mfredat boyunca bilgi iletiřim teknolojisi (BİT) aralarının kullanılmasını nemli hale getirmektedir. BİT, dil sınıflarında farklı materyaller nerme, ğretmenlere hızlı geri bildirim sađlama, ğrenen ihtiyalarına ve seviyelerine uygun uyarlanabilir ieriklere ulařma ve hedef dili anlamlı bađlamalarda kullanma fırsatı verme gibi ok sayıda fayda sunar.

Sorgulamaya dayalı ğretim, ğrenciyi sürecin merkezine yerleřtiren, ğrenenin sorgulamasına ve problem özmesine odaklanan bir tekniktir. ğretmenler, dođrudan bilgi veya özüm sunmak yerine ğrencilere eřitli senaryolar, sorular ve zorluklar sunarak ğrenme sürecini bařlatır. Sorgulamaya dayalı ğrenme dngüsünün beř küresel adımı vardır: sor, arařtır, yarat, tartıř ve yansıt.

Sorgulamaya dayalı ğretim trleri arasında, ğretmenin prosedrler ve materyallerle birlikte arařtırılacak bir problemle ğrenciye girdi sađladığı yapılandırılmıř sorgulama yer alır. Sorgulamaya dayalı ğretimin ařamaları sorma, arařtırma, yaratma, tartıřma ve yansıtmayı ierir.

Sorgulamaya dayalı ğrenme dngüsü, katılım, keřif, aıklama, detaylandırma ve deđerlendirmeyi ieren 5E modeli gibi eřitli řekillerde uygulanabilir. Bu adımlar, bařka trl anlaşılması zor olan konuları etkili bir řekilde vurgulayabilir ve elveriřli bir ğrenme ortamında yardım gerektiren arařtırmanın belirli blmlerini vurgulayabilir.

Sonuç olarak, BİT aralarının sınıf ortamına entegrasyonu, ğrencilerin ğrenmelerini geliřtirmek ve ğretim hedeflerine ulařmak iin ok nemlidir. ğretmenler, BİT aralarını ğretme ve ğrenme sürecine dahil ederek ğrencilerini daha iyi destekleyebilir, eleřtirel dřünme ve problem

çözme becerilerini geliştirebilirler.

Sorgulamaya dayalı öğrenme, araştırma sürecini oluşturma, tartışma ve yansıtma sürecini içerir. Bu, yeni bir yapı ve zihinsel yaratım inşa etmek için araştırma aşamasında edinilen bilgi ve deneyimlerin aktif olarak birleştirilmesini içerir. Bilgi alışverişi süreci, bilginin topluma yayılmasıyla başlar; burada öğrenen tarafından paylaşılan bilgi (LSK), bir sınıf topluluğu içinde anlayışın iş birliğine dayalı olarak geliştirilmesidir.

Kişinin öğrenme süreci üzerine düşünmesi, kavramayı, problem çözme becerilerini, öğrenmeyi sahiplenmeyi ve bilginin gerçek yaşam durumlarında pratik olarak uygulanmasını geliştirir. Öğrenciler öğrenme deneyimleri üzerinde eleştirel bir şekilde düşünerek içeriği daha derinlemesine anlar ve bu bilgiyi farklı senaryolarda nasıl uygulayacaklarına dair strateji geliştirirler. Bu süreç, öğrencilerin problem çözme becerilerini geliştirmelerine ve zaman ilerledikçe daha yetkin öğrenenler olmalarına yardımcı olur.

İşbirliğine dayalı öğrenme, öğrencilerin deneyimlerini ve görüşlerini paylaşmak için akranlarıyla tartışmalara girerek kolektif olarak düşünmelerini içerir. Bu işbirlikçi öğrenme, iletişim becerilerini geliştirir ve sınıf bireyleri arasında birliği teşvik eder. Öğrenciler, öğrendikleri ile gerçek dünya senaryoları arasındaki ilişkiye dair iç gözlem yaparak, bilgi ve becerilerinin gerçek hayattaki pratik uygulamalarına dair içgörü kazanırlar.

Sonuç olarak, sorgulamaya dayalı öğrenme ve derinlemesine düşünmenin birleşimi, öğrencilerin eleştirel düşünme becerilerini geliştirmelerini, yaşam boyu öğrenme zihniyetini geliştirmelerini ve kendi eğitimlerine aktif olarak katılmalarını sağlayan güçlü bir kuvvettir.

Sorgulamaya Dayalı Yüksek Teknoloji Yaklaşımı, ileri teknolojiyi sorgulamaya dayalı öğrenme ortamlarına dahil eden pedagojik bir yöntemdir. Bu yaklaşım, öğrencileri gerçek dünya bağlantıları ve problem çözme faaliyetlerine dahil etmek için dizüstü bilgisayarlar, tabletler, akıllı telefonlar, iPad'ler ve akıllı tahtalar gibi internete bağlı cihazların kullanılmasını içerir. Bu yaklaşım, öğrenci katılımını, aktif öğrenmeyi ve veri tabanları, bilimsel makaleler, kayıtlar ve uzman görüşleri gibi çeşitli bilgi kaynaklarına erişimi

teşvik eder. Yüksek teknoloji araçları iş birliği ve iletişimi kolaylaştırarak eleştirel iletişim ve işbirliği becerilerini geliştirir.

Kişiselleştirilmiş öğrenme, sorgulamaya dayalı öğretim ve öğrenimde teknoloji kullanımının bir diğer faydasıdır. Uyarlanabilir öğrenme yazılımı, öğrencilerin performansına göre görev zorluk seviyelerini ayarlayarak özel yardım ve zorluklar sunar. Gerçek dünya uygulamaları, öğrencilerin öğrendiklerinin pratik sonuçlarını gözlemlmelerine olanak tanıyarak onları teknolojiye bağımlı alanlarda gelecekteki mesleklere hazırlar.

Bu yaklaşım, 11-13 yaşlarında 12 B1 seviyesi öğrenciyi içeren bir İngilizce sınıfına uygulanmıştır. Üç genel bölümden oluşan ders planı, üç ders saatinde uygulanabilir ve toplam 150 dakika sürer. Sorgulamaya Dayalı Yüksek Teknoloji Yaklaşımı, teknolojik olarak gelişmiş bir toplumda gelişebilecek proaktif, kendine güvenen öğrenciler geliştirmeyi amaçlamaktadır.

Dil öğretiminde sorgulamaya dayalı yüksek teknoloji yaklaşımı birkaç aşamadan oluşur. İlki, öğretmenin konuyu tanıttığı ve sınırlandırmak için tahtaya not aldığı bir buz kırma aktivitesidir. Bir sonraki adım, resimler veya videolar gibi özgün materyaller sağlayarak ve öğrencilerin konuyu keşfetmelerine yardımcı olacak sorular sorarak düşünme becerilerini harekete geçirmektir. Bu grup sınıf etkinliği, düşüncelerini ve kelime dağarcıklarını birbirleriyle tartışmayı içerir.

İkinci aşama, öğrencilerin hedefleri ve iletişimsel amaçları hakkında bireysel olarak sorular yazdıkları soru üretimidir. Öğretmen onlara rehberlik eder ve ilham vererek soruları kendilerinin keşfetmelerine yardımcı olur. Son aşama, öğrencilerin araştırmaya yardımcı olmak için teknolojiyi kullanarak özerk ve aktif oldukları veri toplamadır. Öğretmen, her öğrencinin gerekli teknolojik ekipmana sahip olup olmadığını kontrol eder ve uygun materyalleri seçmelerine yardımcı olur.

Öğretmenin rolü, öğrencilere cevapları yazmalarını hatırlatmak ve en uygun materyali seçmelerinde onlara rehberlik etmektir. Ayrıca öğrencileri çalışırken sorgulamaya devam etmeleri için yönlendirmelidir. Araştır-

ma aşamasının sonunda öğretmen, her öğrencinin veya grubun sorularını kendi kelimeleriyle tamamladığından, çevrimiçi olarak bulunan bilgileri kopyalamadığından emin olur.

Son aşama, öğrencilerin cevaplarını tüm sınıfla paylaştıkları genel bir değerlendirmedir. Öğretmen, her grup tarafından paylaşılan ortak fikirleri ve kelime dağarcığını not eder ve tüm notları özetler ve hedef kelime ve dilbilgisi üzerinde çalışır.

Sonuç olarak, sorgulamaya dayalı yüksek teknoloji yaklaşımı, özellikle özel ihtiyaçları olan öğrenciler için dil öğretiminde başarılı bir yöntemdir. Ancak, öğretmenler sınıftaki rollerinin farkında olmalı ve öğrencilere güvenilir materyaller ve teknolojiyle ilgili problemler bulma konusunda rehberlik etmelidir. Bu yaklaşım, araştırma yoluyla kendi bilgilerini yapılandıran daha ilgili ve motive olmuş öğrenenlere yol açar.