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INQUIRY-BASED LEARNING: STRATEGIES AND BENEFITS

This article is concerned with the notion of inquiry-based learning, its strategies of implementation and benefits in the classroom. It discusses the foundational components of inquiry-based learning. Inquiry is a multifarious activity that templates learners to inquire or bring constructive questions that lead to the relevant answers. In inquiry learning learners are presented how knowledge is generated and expressed and how they can gain the knowledge and abilities necessary to become life-long learners. The general theoretical methods of research such as analyses, synthesis were conducted. The paper offers the theory review of strategies, benefits, the efficacy and nature of inquiry-based learning to education that seek to involve learners in this approach, knowledge creation and authentic intellectual work. Definitional understandings of involving learners in inquiry-based learning and knowledge creation were identified in wide range. Analyses revealed various teaching strategies, differing with regard to direction and different perspectives and outcomes of regulation.

The definitions, strategies and benefits of inquiry-based learning which were identified as the most powerful ones during the process of the research can be used as theoretical didactic tool in the methodology of teaching.

Key words: inquiry-based learning, problem-based learning, strategy, benefits, request, research.

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Сұраныс негізінде оқыту: стратегиялары мен артықшылықтары

Бұл мақалада сұраныстарға негізделген оқыту тұжырымдамасы, оны жүзеге асыру стратегиялары және сыныптағы артықшылықтары қарастырылған. Онда сұраныс арқылы оқытудың негізгі компоненттері талқыланады. Сұрау – бұл студенттерге сұрақтар қоюға немесе тиісті жауаптар алуға мүмкіндік беретін конструктивті сұрақтар қоюға мүмкіндік беретін көпжақты әрекет. Сұраныс арқылы оқытуда оқушыларға білім қалай пайда болатындығы және өрнектелетіндігі және өмір бойы қажет білім мен қабілеттерді қалай алуға болатындығы үйретіледі. Зерттеу барысында жалпы теориялық талдау, синтездеу әдістері қолданылды. Бұл мақалада білім алушыларды білімді құруға және шынайы интеллектуалды жұмысқа тартуға бағыттайтын білімге деген сұранысқа негізделген оқытудың стратегиялары, артықшылықтары, тиімділігі туралы теориялық шолу келтірілген. Оқушылардың сұранысқа негізделген оқыту мен білімді құрудағы сабаққа баулу анықтамалары кең ауқымда анықталды. Талдау барысында бағыттарына қарай әр түрлі стратегиялар анықталды.

Зерттеу процесінде тиімді деп анықталған анықтамалар, стратегиялар мен сұранысқа негізделген оқытудың артықшылықтары оқыту әдістемесінде теориялық дидактикалық құрал ретінде қолданылса болады.

Түйін сөздер: сұраныстарға негізделген оқыту, проблемалық оқыту, стратегия, артықшылықтар, сұраныс, зерттеу.

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Обучение на основе запроса: стратегии и преимущества

В статье рассматривается понятие «запрос-ориентированного обучения», или, иными словами, «основанного на запросе обучения», его стратегии реализации и преимущества в классе. Обсуждаются основополагающие компоненты «запрос-ориентированного обучения». Запрос – это мероприятие, которое позволяет ученикам задавать конструктивные вопросы, которые приводят к соответствующим ответам. В ходе исследовательского обучения учащимся

рассказывается, как генерируются и выражаются знания и как они могут получить знания и способности, необходимые для того, чтобы учиться на протяжении всей жизни. Применялись общетеоретические методы исследования: анализ, синтез. В статье предлагается теоретический обзор стратегий, преимуществ, эффективности и характера обучения, основанного на запросах, для образования, которые стремятся вовлечь учащихся в этот подход, создание знаний и аутентичную интеллектуальную работу. Определения понимания вовлечения учащихся в обучение на запросах и создание знаний были выявлены в широком диапазоне. Анализ выявил различные стратегии обучения, различающиеся по направлению и различным перспективам и результатам регулирования.

Определения, стратегии и преимущества «запрос-ориентированного обучения», которые были представлены как наиболее эффективные в процессе исследования, могут быть использованы в качестве теоретического дидактического инструмента в методологии обучения.

Ключевые слова: обучение на основе запроса, проблемное обучение, стратегия, преимущества, запрос, исследование.

Introduction

In the 21st century the great number of educators are overwhelmed by the repertory of available classroom techniques and methodologies. Searching the best method they need to carefully check the need of the learners. IBL is one of the effective strategies that can be applied in the classroom activities. It makes students to be involved in teaching and learning process. Inquiry-based learning is much more than a strategy of learning but it is a view to life that implicit students' involvement in facing and solving a problem, the search of strategic and realistic solutions (Escalante, Patricia. 2013). "Inquiry" is defined as a quest "for truth, information, or knowledge... seeking information by questioning". Individuals go through a process of inquiry from birth until they die. Babies begin to make sense of their surrounding through their curious observations. The process of inquiry begins with "...constructing and gathering information and data through applying the human senses" (Exline, 2004: 31). The former figures introducing inquiry learning are Piaget, Vygotsky, and Brunner. In our country this kind of approach is used in the field of mathematics and science. Hopefully, Kazakhstan students are able to construct the knowledge and continue the paradigm of long lasting education. According to Pedaste, Mäeots, Leijen, & Sarapuu, (2012) it can be explained as a process of finding new occasional correlations, with the learner working out hypotheses and checking them by holding experiments and observing them. It means that the approach discriminates learner's dynamic participation and leads to take responsibility for discovering new knowledge to the learner.

Pedagogues have begun to look at aims, features and results of the inquiry-based learning method that is capable to yield the possible better alternative. Inquiry-based learning method has become one

of the most famous learning methods in the developed countries such as United States of America, Great Britain and Canada, China. In Malaysia, it has been introduced recently. Although, some related classroom methodologies, such as project-based and problem-based learning method, has been practiced.

In this article we will reveal and highlight the most powerful strategies and benefits which had shown the significant learning outcomes from empirical studies. The research questions of this study were 'Which strategies of teaching are conducted by teachers to stimulate inquiry-based education in the classroom and What are the benefits of inquiry-based learning?' The purpose of this study was to reveal the most powerful strategies and benefits of using inquiry-based learning in the classroom through literature review of empirical and theoretical studies. In order to gain this purpose various types of research studies, books and web pages were studied.

Research methods

The current study implements a systematic approach to analyze critically dominant learning methods. The review began with systematically searching for relevant literature in the databases such as Google Scholar, Science Direct, Article.kz, Springer, ERIC, Cyberleninka.ru

To address the issues we collected quantitative and qualitative data from the relevant literature in order to analyze, evaluate and compare the ability of a determined phenomenon. We defined definitional understandings of what it means to involve learners in inquiry-based learning and creation of knowledge in a wide range. We provided analysis, synthesis and summary of the most contemporary empirical research results. The systematic operation of review was set using some criteria that were

used to minute the structure of a review. The studies involved empirical and theoretical studies which were focused on the comprehension criteria evolved at the beginning point of the review process. These criteria served as standards for estimating the weight of evidence in the studies which were included in this work.

The studies which met the following criteria were selected:

1. Empirical quantitative with qualitative research studies and theoretical research papers on inquiry-based learning education which were carried out in authentic classroom conditions.

2. Including information on the strategies and benefits in inquiry-based education;

3. Published between 2010 and 2020.

From the end of January to March 2021 we searched professional and academic research papers using key words that contained *inquiry-based learning*, *problem-based learning*, *design-based learning*, and *project-based learning*. We used the search strategies as followings:

- Published research reports, books and manual searches of relevant journals.

- Electronic searches on the databases as followings: Google Scholar, Science Direct, Article.kz, Springer, ERIC, Cyberleninka.ru

- Internet searches using Google.

We chose for a ten year period, since much has been written on inquiry-based education in those 10 years. The process included seeking for qualitative and quantitative research works. There were several quantitative works in the field of inquiry-based learning however most research works present qualitative data descriptions. Integrating these kinds of studies in this review a chance was provided to explore strategies of teaching regarding to inquiry-based education in its various forms, establish the efficacy of given approaches to inquiry-based learning based on quantitative research works, and to give wide descriptions of efficient approaches which are informational for theory and practice. We carefully analyzed studies that focused on investigating the strategies of inquiry-based learning. We selected studies for complementary analysis which revealed various strategies of teaching. They show that it is possible to implement the teacher's actions on request in the form: of: demonstration of examples, group project, research activities practical work, unique exercises tailored to specific learners. In addition to strategies and requests the most essential types and 7 benefits of inquiry-based learning were identified. The results show the strategies of bringing the inquiry-based learning into the class-

room. We reviewed some studies which concerned the importance of strategies and techniques. Murumbaeva A. (2014) in her study states about the use of the term "strategy". In its beginning period it was used as a military science term, because the word «strategic» in Greek means «waging war». It originates the term strategy, which is obligated to expand theoretical and practical art of waging war. War histories, thus, strategies consider significant quantity of time. However the scientific access to this concept started before two centuries and it was concerned with G. Lloyd. In his works he generalized wide practical experience of humankind and some trials of theoretical studying of the question. And then it rooted in economics, politics and many other spheres and meant ability of management planing based on appropriate and perspective forecasts. Today the term "strategy" is widely used in the sphere of pedagogics too. Some authors pointed the techniques and strategies of project-based learning which were alike with inquiry-based learning. The results of Tran T. Q., Tran P., Ngoc T (2021) studies indicated that project-based learning has large positive effect on students' academic achievement rather than in traditional instruction. Wu T. T., Wu Y.T. (2020) investigated how to apply project-based learning strategies in engineering education to find the efficacy of personal motivation, cognitive creativity, and personality. The findings of the study showed that strategies used in project-based learning developed students' innovative thinking skills and ability to solve engineering problems. Lin L.F. (2017) investigated if a course of English reading conducted with the problem-based learning approach could reinforce foreign language students' reading comprehension skills. The study indicated that the problem-based learning approach significantly improved the students' reading comprehension skills, and their use of strategy to identify the subject matter was better than in classroom with traditional instruction.

Results and discussion

Different ways for inquiry-based learning implementation were distinguished within various paradigms in the review. According to the studies of Dobber, M., Zwart, R., Tanis, M., & van Oers, B. (2017) several eminent approaches were analyzed such as:

- 1) inquiry-based learning
- 2) problem-based learning
- 3) project-based learning

We discussed these prominent approaches and their strategies of implementation.

In Kazakhstan this approach is ongoing process and as inquiry-based education is not extensively evolved in our country we decided to take in accordance the studies of problem-based and project-based learning as their structure is quite similar with the inquiry-based learning. Researchers as Sadenova, A. Y., & Aytpayeva, A. S. (2015) find the problem-based learning approach as the way of overcoming challenges faced in learning languages. When familiar thematic material is presented, at first glance, familiar vocabulary and grammar make it easier for students to complete the task. But after a few minutes they realize that they are not doing well: what they want to say in Russian or Kazakh is not successful, the vocabulary is incorrect or there is a lack of vocabulary, the word order in the sentence is completely different. It is recommended to use problem-based learning technology to solve the problems of continuing education and to achieve good results in language adaptation lessons. (Irawan, Syahrial, Sofyan, 2018). "There are many investigations about the use of Inquiry-Based Learning (IBL) strategy for some skills in teaching of English such as: IBL for developing listening skill, IBL for developing reading comprehension and IBL for improving writing ability. Anyhow the IBL strategy is effective for teaching of English which is supported by literature, but the IBL strategy has a chance to be applied on developing speaking ability." So the approach is beneficial in learning languages. Maqtupov B.Y. 2010, in his article discusses the effective methods which can be used in teaching history and finds the problem-based teaching as effective one. In the process of lessons it is useful to carry out problem-based learning, i.e. the creation of a problem situation at all stages of its teaching, reviewing and approving new material, asking for homework. This method is used in a variety of ways in different types of lessons. For example, in addition to asking and answering problematic questions related to the content of the text that we often use, the problem-based method is based on the analysis of documentary materials.

The results show the beneficial effects of the approach in different teaching spheres including medicine. V.V Koykov, G. A. Derbisalina, (2012) claims that the medical education system have been widely used to develop students of a creative approach the so-called «clinical thinking», associated with the ability to analyze and compare the available facts about the state of healthpatient and make clinical decision taking into account all the strengths

and weaknesses, opportunities and threats. These methods include problem-based learning, project-based learning, inquiry-base learning, case-based-learning, training on standardized patients, etc. M.M. Tusupbekova, V.L Bogaslavskiy, S.A Musabekova, R.M. Dusmailov, Y.A. Kotov, (2017) persuade the use of the inquiry-based learning approach in any field of education. They state that the process comprises developing a general investigation preparing an overview of scientific literature, determining objectives and goals, planing activities of investigation, selecting techniques and methods, carrying out investigation, analyzing data, clarifying and assessing results, writing a report and presenting investigation results. Practice has shown that elements of the approach can be involved in all forms of organizing educational process, both within the classroom and out-of-class components.

As inquiry-based learning is a bit complicated approach it remains a problematical matter how to bring it into everyday classrooms. According to the research review of Dobber, M., Zwart, R., Tanis, M., & van Oers, B. (2017) great number of research on learning by inquiry concentrates on analyzing the quality of achievements from learning, rather than the situations which can advance efficient inquiry-based learning. In particular, there is a need for more understanding of the role of teachers in promoting inquiry-based education

First of all, in order to create a comfortable learning environment for each of the students, it is important to determine his personal trajectory based on the generated request, both from the student's point of view and from the teacher's point of view.

From the learner's perspective, inquiry-based learning focuses on the question posed or the problem they describe. Students should use their own evidence-based reasoning. Feel free to point out their knowledge gaps and ways to address them. Students must build a system of their own goals and objectives. It is ideal if they show how they are going to test the achievement of the required results in the long term (Khalaf, 2018).

From the teacher's point of view, inquiry-based learning focuses on taking students beyond general curiosity into critical thinking and understanding. The teacher should encourage students to ask questions and maintain their interest in the learning process by understanding when to start and how to structure their self-study activities (Ramnarain, Hlatswayo, 2018).

Using such a set of measures as guided self-learning it is possible to implement the teacher's actions on request in the form:

Demonstration of examples
 Group project
 Research activities
 Practical (laboratory) work, especially in science lessons
 Unique exercises tailored to specific learners
 Whichever activity the teacher uses, he should allow the students to develop their own strategies for solving the questions and problems

posed by the preliminary review of the topic. Analyzing the studies of researchers as Marcus Guido (2016), Raudys, Justin. (2018), Khalaf, B.K., & Zin, Z.B M. (2018), Irawan Y., Syahrrial S., Sofyan D., Degtyarev S.N. we decided to create a table of strategies which were used and revealed effective results in empirical studies. The teacher can suggest options for such strategies as in *Table 1*.

Table 1 – Strategies of inquiry-based learning

1. Taking into account the basic principles of inquiry-based learning	To start inquiry-based learning, there are some general principles should a teacher follow: a. In the educational process learners are at the center. Together with the provided resources and technology, the teacher does whatever is necessary to support the students. b. The educational activity itself should focus on the development of students' abilities in information processing and critical thinking. c. The teacher should instruct how students build a conceptual understanding of the topic, how they develop these skills (Guido M. 2016).
2. Demonstrating how to participate	A teacher should consider demonstrating how students can participate in this form of learning, because students may not be familiar with inquiry-based learning approach. In particular, they must learn to: contribute their ideas; develop these ideas; formulate their requests and organize a constructive request of all group members; explore, as much as possible, student ideas and hypotheses. The teacher can run a mock-up exercise for the class to organize a group discussion, skillfully accompany their cognitive search, to show students first-hand which algorithm to choose and how to complete each of the steps on the path to knowledge. For example, after presenting an open-ended question, by participating in the discussion, "contribute" to the brainstorming session. Direct, but never prompt. The teacher's participation in the future will serve as an example of the presentation and development of their ideas. Demonstration of how to participate in organizing a request should prepare students to participate in future discussions, discussion, and formulation of their questions (Raudys, Justin, 2018).
3. Surprising students	To ignite the curiosity and desire of students to learn more and more deeply, start the process for an unknown and unexpected request. Demonstrate to students without prior preparation: engaging and informative instructional video, present theoretical findings and related exercises and tasks, showcase original sources and even scientific articles. Students' primary curiosity should be reinforced by their conclusions, demonstrating the use of what has been learned in practice (Guido, 2017).
4. Teaching on inquiry when traditional methods don't work	Structured or guided search and exploration activities can be used in topics that are difficult for learners, where their attempts to understand the content allows them to process it in different ways. While working on a cognitive task, students should be able to choose their own methods for analyzing information, which can usually be too difficult to study. As a result, they are more likely to come to their own inferences that can be worthwhile to them. The teacher may discuss these findings and fill knowledge gaps to insure that all students have a clear understanding of the cognitive task and are on the right track. In addition, monitoring students throughout the learning activity can affect the teaching style of the teacher himself. Subtotals can provide thought-provoking information on how to organize other difficult lessons (Khalaf, B., & Zin, Z. B M. 2018).
5. Watching when the request won't work	Learning on demand has a distinct advantage, but the teacher must understand which lessons do not require a request. For example, you are studying a topic where there are no complex theoretical conclusions, but more questions of a reproductive nature: description of events, facts, quantitative data, etc. In this case, learning on demand will lead to a waste of time, depriving us of that part of the cognitive activity that requires analysis and research. Thus, in this case, a simple explanation will suffice. (Irawan, Syahrrial, Sofyan, 2018).
6. Don't expect perfect questions from students	The student may ask a question that can stimulate the curiosity of classmates by signaling the teacher about their level of knowledge or readiness for searching activities. But this happens very rarely. And often the teacher shouldn't wait for this. Of course, the teacher can organize the search activity of the students when he feels that it is appropriate. But one way or another, he has to use the available preliminary request, which: reflects the basic concept of the curriculum formulated by students from previous years or other parallel classes; reflects the interests of students declared in previous lessons and discussions. (Degtyarev, 2014)
7. Classroom reflection	Allocating time for general class reflection allows students to discuss problems, make preliminary discoveries, fill in knowledge gaps and formulate new conclusions for themselves. This will prepare students for future lessons and subsequent independent cognitive activities. They will learn many ideas to consider as they study a particular topic. Learn about search techniques to try on self-study.

These strategies will enable the teacher and his students to take full advantage of the benefits of learning on inquiry.

The advantage of inquiry-based learning

According to the findings from the reviewed studies numerous beneficial effects of inquiry-based learning were revealed. If look at traditional form of the educational process in the classroom, as a teacher, you will find this moment in this classroom while you are teaching. The students tend to answer “No” while their teacher asks “Do you have a question?” It does not mean that they fully understand the material which was explained by the teacher but it shows something else since they still cannot do the task well after that. The question of the teacher is intended to know the students’ comprehension according to the material and to assess the educational process whether there is something missing or not. But unfortunately the teacher in most cases will not get the intended answers. Inquiry-based learning comes up with the idea that the learners have to ask questions not just listen and repeat the answer which is expected. The students, in this era, need more skills and abilities rather than memorizing and repeating the information and facts. Armstrong P. (2010) claims that inquiry-based learning approach is directed to the development of learners’ skills in analyzing, synthesizing and evaluating information, that is, to high levels of cognitive performance in accordance with Bloom’s taxonomy. It means that they are expected to find and use the information and facts. The teacher can help them in the classroom, but he or she cannot do it outside the class. As a consequence, the learners are expected to continue the request for knowledge throughout life. Instead of being knowledge receivers, they are taught of being knowledge inquirers. According to Lee (2014) in

English teaching and learning activities, this inquiry-based is beneficial in some ways for instance improving vocabulary mastery, explaining the grammatical forms, helping the students in negotiating meaning, and embedding cultural essence. Furthermore, inquiry-based language learning also gives benefit related to classroom instructions in which increasing student’s participation, maintaining their attention, and initiating classroom interaction. It can be done through giving questions which are necessary for assessment and feedbacks given related to the material. Lazonder A. W., Harmsen R. (2016) state that inquiry-based language learning also strengthens the students’ linguistic knowledge and communicative competence. From the explanation it is clear that inquiry-based language learning benefits more on the teaching a foreign language.

Y., Syahril S., Sofyan D. (2018) declare about the benefits of the approach on students’ speaking skills. According to them giving questions here is valuable since it provides exciting experience in learning that allow them to make discovery, reflection, creativity, and encourage cognitive and meta cognitive skills. It can be concluded that those valuable things facilitate understanding, self-regulated learning, and future learning transfer. In addition to building exploratory abilities to help learners gain high level cognitive performance, inquiry-based learning can carry many other benefits to learners and teachers. Several other researchers as Pluck G., Johnson H. L.(2011), Wale B. D., Bishaw K. S.(2020), Maaß K., Artigue M. (2013), Nursifah N., Komala R., Rusdi R.(2018) revealed the beneficial points of inquiry-based learning. We constructed the table of inquiry –based learning benefits which can reveal the most powerful effects on the knowledge acquiring process in *Table 2*. We highlighted several benefits of the approach giving them descriptive titles.

Table 2 – Benefits of inquiry-based learning

Strengthening Curriculum Content	Teachers can use this method to reinforce the relevant curriculum content and improve students’ understanding of the core concepts. Initial curiosity promotes better memorization. When a certain position in the program arouses the student’s curiosity, his mental activity increases, which further contributes to a deeper memorization. When students are more curious than usual about a particular topic, teachers can fill it with more content using their questions and assignments to start the inquiry implementation. (Pluck, Johnson, 2011)
Intelligent warm-up for further learning	Running a Brief inquiry activates the class to help students absorb learning information throughout the learning time. The main goal of the teacher is to rekindle the initial curiosity. It prepares the student’s brain for further in-depth study based on understanding, the search for cause-and-effect relationships, complex mental operations of analysis and synthesis. This will help to start the lesson by awakening curiosity, stimulating further cognitive activity. «Pluck, Johnson, 2011)

<p>A deeper understanding of the content</p>	<p>As students delve deeper into learning through exploration, students should see more in content than a simple rule, idea, or formula. Many of them will understand: How this idea developed Why this rule or formula has worked for a long time When they can correctly apply this rule, idea or formula in practice This is because the process of asking open-ended questions, solving them with their own strategies, gives students the opportunity to take responsibility for their learning (Wale, Bishaw, 2020). Consequently the learners can show understanding of the concept through their own methods and thinking styles. The same principle applies to research-based learning, which puts learners at the center of the learning experience</p>
<p>The request makes the tutorial more useful</p>	<p>A query can help students see the benefits of learning from the inside out. It has long been known that many children study in order to earn parental or teacher approval, are afraid of their negative assessment. As a result, they fail to understand the true value of learning. Inquiry-based learning and self-learning instills a different mindset. Inquiry-based learning shows students how the act of discovery, insight is performed, and that thinking through a new strategy or original conclusion of their own is a reward. This allows students to grow intellectually to enjoy the learning process itself, rather than parental or teacher approval (Guido, 2016).</p>
<p>Initiative and self-government</p>	<p>Many cognitive skills are associated with initiative and independence. This becomes obvious when considering the stages of cognitive activity. Children learn to ask questions, explore, discuss, collaborate, interact and draw their own conclusions. Independent cognitive activity contributes to a more harmonious development of communication and research skills, which in other cases are imposed from above. (Wale, Bishaw, 2020).</p>
<p>Inquiry-based learning works in any class</p>	<p>Even regardless of the class and the specifics of the subject. A teacher can: move step by step to see the necessity of the learners; support learners who have difficulties in understanding content through non-traditional lessons; create exercises and assignments that are significantly different from traditional ones, using different ways of developing students' research skills; use the initial request as an intelligent warm-up, review, full lesson or stand-alone project; strengthen and expand any field of study on inquiry, as long as students show interest in it; in this way, the teacher will be flexible to provide an inquiry-based learning start in any classroom and using this approach in the coming years (Maaß, Artigue, 2013).</p>
<p>Differentiated approach</p>	<p>Launching an inquiry-based learning activity will enable differentiated learning strategies to appeal to various learning styles of students. According to Nursifah N., Komala R., Rusdi R. (2018)[25] students can work on their own or in a small or large groups because research involves such methods as discussion and controlled research. The content can be presented in different forms as: audio, text, video, virtual or laboratory experiments. Consequently inquiry-based learning activities can allow the teacher to meet students' different learning preferences and needs.</p>

As a result the inquiry-based learning can be considered as one of the complex but effective approaches. It can work in any field of education and improves students' thinking, analyzing, synthesizing and comparing skills.

Conclusion

Armed with a deep understanding of on-demand learning and the strategies needed to launch independent learning activities, the teacher must show students the tangible benefits of this learning method. This self-immersion in content contributes to a deeper understanding of the main ideas and concepts of the curriculum and the development of cognitive skills. And what is no less important, the knowledge acquired in this way has a much higher value. In general, we concluded from literature review indicating the teaching strategies

in inquiry-based education that have positive effects on students' learning outcomes. Those strategies in inquiry-based education are a bit complicated and challenging, but they are deserving in teaching and learning process. The inquiry-based learning process based on the aforementioned strategies can establish extraordinary chances for learners in any kinds of schools to develop their inquiry abilities. Respecting the outcomes of the empirical studies of inquiry process, this study could answer the questions of the research indicating main strategies and benefits of inquiry-based learning. It is applicable for teachers' professional development as it exemplifies the strategies and benefits that teachers need to promote inquiry-based education in their classrooms. We suppose that strategies and benefits of inquiry-based learning which were revealed will serve as guidance during the implementation of the approach.

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