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PROBLEMS USING INNOVATIVE TECHNOLOGIES IN TEACHING ENGINEERING

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ABSTRACT

This article's main objective is to demonstrate how cutting-edge technologies may be used to teach effectively. The advantage of using this article method is the capacity to efficiently gain communication proficiency. A communicative strategy focuses on improving international contact skills and communication skills, which are the cornerstones of how the Internet operates. The Internet is an international, multinational, cross-cultural society whose livelihoods depend on electronic communication between millions of simultaneously across the globe. This conversation is the largest in terms of size and number of participants in a conversation that has ever taken place.

KEYWORDS

tools, communicative competence, innovation, modern technology, motivation, methods.

The nation has entered the third millennium, which introduces fundamentally new criteria for specialty training. Market savvy, initiative, the capacity for risk-taking, and a solid command of two languages—the national tongue and a foreign tongue is required of them. The fundamental demand for modern employees to know languages is the trend of globalization, the intensive development of communication, the Internet, and distant learning. As a result, it is thought that teaching foreign languages is a crucial component of the overall program for humanitarian education.

Systems, materials, equipment, and technology that will be included into new building and renovation projects are frequently decided upon by the organizations and agencies that own, manage, renovate, and operate assisted housing facilities. Despite the fact that design and construction experts like architects, structural and mechanical engineers, and building/trade contractors frequently offer advice regarding building systems and water heating equipment, recommendations frequently center on those technologies that are most well-known and have the lowest initial costs. Lack of proper consideration

of newer, lesser-known technology usually results in missed opportunities to improve building performance and gradually lower operating costs. The increased space restrictions for older structures sometimes make this tendency worse.

This Innovative Building Technology Guide is intended to help building owners/operators and design professionals by guiding them through a process that promotes careful and logical examination and comparison of various technologies to choose the most appropriate option to achieve a certain goal. The upfront financial charges will merely be one of several economic factors. Considerations such as the life-cycle analysis return on investment, and total monthly running expenditures, which include the cost of utility bills as well as principle and interest payments on financing, are crucial. Tools and procedures for analyzing and contrasting the performance of various system alternatives will offer confidence regarding the frequency and cost of maintenance, the equipment's lifetime, and the documentation that the items work as intended.

Innovation in technology refers to discovering a better method to achieve something or enhancing an existing concept. Innovation fuels development across all industries. What would our lives be like without it, even? Prior to Henry Ford's invention of the Model T at the turn of the 20th century, cars were a toy for the wealthy. In the modern day, we have automobiles that can be plugged into power outlets, travel great distances, and reach top speeds of more than 200 mph. The horse and buggy definitely wasn't where we are now. Innovation is to blame for this development.

The building business is comparable in this regard. An fundamental component of human life is shelter. Using just the natural materials at their disposal, our ancient predecessors erected buildings by hand. Log cabin building was a cutting-edge technique used by early Americans. The Industrial Revolution paved the door for more efficient production through factories, quicker construction through the use of steel and concrete, and stronger constructions. With the development of these new technologies and the rapid expansion in the world's population, demand for sturdy, secure, and swiftly built structures significantly rose. Everybody understands how important cost is when making any kind of investment. Cost is undoubtedly a factor that all of us take into consideration, regardless of the good or service. These financial factors are especially crucial when choosing cutting-edge technologies for your building or remodeling project. They are probably at the center of your decision-making. Although the initial impetus for initiating a project's conceptual and planning phases may come from facility requirements or financial possibilities, the project budget typically sets the parameters and ultimate scope.

Quiz let architect for your new home development advises utilizing spray foam insulation for the external walls. This is a simple example of how you may include an economic analysis in a project.

You learn the price after getting in touch with an insulation contractor that it will be three times as costly as fiberglass and twice as much as densely packed cellulose. Even after accounting for the additional advantages thermal performance, better air sealing, and moisture resistance, the price will still be out of your price range. Even though you are aware that you cannot afford the update, you are nonetheless drawn to the spray foam's high performance qualities.

Although doing an economic analysis is a crucial step in making decisions, building owners, managers, and decision makers must be aware that it is closely related to other assessment techniques. Performance analysis is required to determine the advantages of various goods and systems and assign them the appropriate values. An economic study must also include a feasibility analysis. An examination of the economics of various possibilities would be meaningless if a certain technology was not suitable for your climate.

Make sure you have price estimates that are as exact as feasible to guarantee that your economic forecasts are as accurate as possible early in the decision-making process. Request cost estimates from your contractor and subcontractors if you have them on board because they will be doing the job and are likely to have the most accurate cost data. Obtain many quotes from contractors if you are still looking. You may be sure that the prices are fair and affordable by interviewing many contractors. Always obtain several references for a similar type and scope of work before selecting a contractor. Keep an eye out for potential conflicts of interest—for instance, a contractor who tells you that you must replace the windows in your building and is a distributor for a particular window manufacturer has a conflict of interest.

The explanation of various forms of economic analysis will make clear that comparisons are typically used in the evaluation process. You'll frequently be contrasting several technological solutions and assessing performance traits, the degree of viability, and financial expenses and savings. Economic decisions about building innovations are divided into four main project phases, much as the total project. These steps are meant to provide an overview of how innovations are adopted and

evaluated economically. They begin with deciding what is needed for the project, move on to estimating its size and scope, select a method, perform a thorough economic analysis, and then take into account costs that will affect the building owner or operator after the innovation has been implemented.

The main economic factors that are taken into account at the conceptual stage are how the project's finance will be distributed and the conditions that will be attached to it. The financing source will frequently have criteria, and it may be more generic or targeted for a specific purpose. A project supported by a non-profit group that advocates for the elderly, for instance, would focus on developing technology that an able aging in place. Clarifying the source or sources of financing, what that funding may be used for, and what must be accomplished by that funding at the conceptual phase can assist determine what innovations can be included in a project. Key inquiries that will categorize financing and characterize available possibilities are outlined in the following chart.

Make sure you are well informed with the program standards and financing structure that relate to your project. Exact rules about qualifying costs, acceptable rentals, timetable if payback is necessary, and a host of other conditions will apply depending on the specific program—a grant via a state or national program or tax credits through the Internal Revenue Service. If you are using many sources of funding, this procedure may become even more challenging.

The Split Incentive Problems. Split incentives result from the division of the "investor" and the "beneficiary" of the investment. This situation might occur in a variety of ways with regard to rental homes and energy-efficient technologies. Tenants have no motivation to track or lower their energy use if the building owner covers their power costs. He or she likely has no idea how much his or her apartment's electricity costs. Due to the ambiguity around the savings he would really obtain, the building owner has little motivation to invest in more energy-efficient machinery, appliances, or

efficiency enhancements. The thermostat, lighting, and other amenities are still within the tenant's discretion.

Because they do not own the building, tenants who pay the electricity bills have no motivation to undertake energy-saving modifications. They most certainly won't stay in the building long enough to see a return on any investment in the form of lower monthly bills. Similar to the building owner, there is little motivation to replace outdated machinery or implement other energy-saving measures like improved windows or air sealing because they will not directly profit from decreased monthly costs. Split incentives may also result from different financing options. Tenants with low and moderate incomes frequently receive assistance from an organization for some of their utility costs.

Simple Repayment Depending on the technology, the payback time is a valuable and straightforward tool for assessing the cost-benefit of a particular project. It may be quickly computed and understood by most people. Simple payback is typically utilized in buildings and building systems for smaller, less expensive initiatives like lighting upgrades and straightforward equipment comparisons such as air-conditioner units and appliances. Inflation, discount rates, and net present value are just a few of the financial factors that the basic payback technique does not take into consideration. Users must be able to calculate how long it will take for an investment to pay for itself because innovative goods often have greater initial costs than traditional ones. Calculating the payback period for a product or building system can determine, with relative accuracy, at what point the savings accrued from an investment will cover the purchase price. Although simple payback does not account for more complex financial variables, such as inflation, discount rate, and net present value, it does provide one perspective for economic evaluation. The annual savings and life expectancy for a product or system need to be determined before the simple payback calculation can be performed. The example that follows shows how you could use a payback calculation for a lighting project.

Innovative activity is nothing more than a set of actions taken to provide innovative process at a certain educational level. Educational innovations take the form of imaginative explorations of novel concepts

and ideas, which, in some instances, transforms them into standard projects that contain the prerequisites for their adaptation and use. There are administrative, pedagogical, and supply novelty items based on the different activity categories. There are two categories of innovative phenomena: innovative learning and pedagogical innovation theory innovations in the educational system. While pedagogical innovation theory is concerned with restructuring, improving, and changing the educational system or its individual components, features, and aspects creating new laws, new structures, models, learning paradigms, forms of integration connections, etc., innovation learning is defined as a particular type of learning. While pedagogical innovation theory is related to restructuring and modifying, improving and changing the educational system or its separate parts, characteristics and aspects creating new legal acts, new structure, models, learning paradigms, forms of integration connections, etc., innovation learning is defined as a specific type of mastering the knowledge and as a product of conscious, goal-oriented and scientifically-founded activity in the educational process. Innovative learning is currently replacing supporting learning. It is considered to be the educational system's reaction to the society's transition to as higher stage of development and reaction to the changed goals of education. Innovative learning is learning that stimulates innovative changes in the existing culture and social environment. It acts as an active reaction to the problem situations, which appear in front of each single person and the society in general. It is called to prepare not only a "learning person", but also an "acting person". Moreover, all elements of supporting learning are present in the innovative process; the only question is the definition of the proportion between reproductive and productive, active and creative components.

Innovative learning involves planning and implementing exploratory, research, educational-playing, modeling, and other sorts of educational activities. It is a creative process. It goes without saying that competent teacher training is the first step in solving educational issues. As a result, it is crucial that the education of aspiring school and college instructors be focused not only on the fundamentals of the topic of study but also on society as a whole, including informational culture. A modern teacher must

be skilled in employing cutting-edge technology and creatively integrating them into a particular educational discipline in addition to being able to teach his "own" topic. In these circumstances, the aim is to train not just a teacher but also someone who can use modern technologies.[1]

In these circumstances, the goal is to train not only a teacher who is proficient with new technologies but also a researcher, innovator, and experimenter, as well as a personality capable of creative inquiry, critical evaluation of historical pedagogic heritage, adaptation to modern society, and adaptation to ongoing changes in information technologies. The development of a teacher's preparedness for inventive activity in the field of employing innovation technologies and for learning in accordance with the demands of a contemporary society is important, and this preparation requires advanced training in the field of modern technologies.

The work on the project can be carried out either individually or in groups. Working in groups, the participants of the joint project should distribute the roles and realize that success depends on the contribution of each participant. Project work begins in the classroom as a teacher-supervised activity. Projects may be short-term or long-term. Depending on the type, they can be presented at the next lesson, or at the final lesson. It is important to organize the work using project, creating the most favorable conditions for the disclosure and manifestation of the creative potential of the participants. In my experience, I organize post-project exhibition of the works, so that other students, parents and teachers should be able to see and appreciate the importance of this work. Using project method in my work, I came to the conclusion that this method is very effective at generalization, consolidation and revision of educational material, especially in the organization of its practical application. For me there is a particularly appealing fact that project based learning actively influences the motivation of student [2]. The work with the project—presentation encourages students to use computer technology. It should be noted that many students get their first experience in Power Point preparing for such kind of projects. We define innovative activity in the application of new technologies as incorporating the appropriate innovations into the structure of the educational process and educational programs, such

as by creating programs for universities and cutting-edge educational institutions gymnasiums, lyceums, experimental sites, etc. As a result, the following characteristics are present in their activity: They create a model of child life organization that is distinct from that found in mass education; they create educational content that is fundamentally distinct from that found in traditional education, including the ability to master the skills and resources of self-conscience, self-regulation, self-education, and self-definition.

Any stage of studying a foreign language may take part in the test. The test's topic can be local knowledge. The group of colloquial speech is a vast area of the teacher's work where they can employ a variety of intense method-specific tactics. By doing this, a climate that encourages communication is created. Modern schools are undergoing updating in the area of foreign language instruction, giving instructors the freedom to select their own textbooks and other teaching materials. A contemporary educator rejects prefabricated teaching tools that rigidly enforce activities inside a certain methodological paradigm in favor of researching the state of foreign language instruction and making appropriate use of emerging technology. Computer technologies unquestionably represent modern technology, and they have a lot of benefits over more conventional approaches. Computer education has a great deal of motivating potential. The development of a global computer network known as the Internet—whose name literally translates as "international network"—has been one of the most innovative accomplishments in recent decades and has had a huge impact on educational processes all around the world. Since the changes that take place have an impact on every aspect of the educational process, from the choice of techniques and work styles to the change in requirements to the academic level of students, the use of cybernetic space for educational purposes is a completely new area of general didactics and private methodology [3].

Nowadays, every educator makes extensive use of the materials available on the Internet worldwide. Students filter a lot of information when creating messages, typically seeing photographs and listening to music if necessary. These assignments for students might, for instance, combine the project

approach with the lesson preparation stage to provide them a chance to apply their knowledge and abilities in a real-world setting. This is one of the ways in which group activity is effectively implemented in study organization and cognitive activity, which enables raising the desire for learning a foreign language. The student is at the heart of this learning process, given the chance to openly express his thoughts and use foreign language in real-world situations. Periodically, diagnoses of the dominant ICT culture in teaching centers should be made. A center's infrastructure and services should be evaluated as well, with a focus on their educational applications both within and outside of the classroom. Other objectives of these diagnostics include identifying the difficulties or obstructions present in the institution, deciding what methods should be employed to overcome them, and implementing those methods. In conclusion, I'd like to point out that, in contrast to traditional methods, the use of new forms of learning gives a student a significant role in their pursuit of knowledge.

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