

CONNECTIVISM AS A BASIS FOR BUILDING WEB-ORIENTED MIXED SYSTEM OF PRACTICAL TRAINING

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Анотація

Автори представляють результати дослідження формування веборієнтованої системи практичного змішаного навчання для технічних спеціальностей. Тенденції запровадження змішаного навчання часто полягають тільки у використанні відео матеріалів лекцій відомих навчальних закладів та інших інструментів дистанційного навчання. Автори пропонують будувати систему на основі комплексного використання коннективізму та конструктивізму.

Abstract

Authors present the results of studies forming web system mixed practical training for technical specialties. Trends in introducing blended learning are the using of video materials known lecturers schools and other tools of distance learning often. Authors propose to build a system based on complex for using of connectivism and constructivism.

Trends in introducing blended learning are relevant. But often this implementation is only the using of video materials known lecturers schools and other tools of distance learning. The authors find, that the main in system components is blended learning based on the principles of constructivism and connectivism.

Formulation of the problem – define the basic principles of connectivism for the formation of an effective information environment for practical blended learning.

Topicality of insight into all models that means recurentive and recursive development (as gradual specification) of each model on the basis of the method of consequent approximations, which realizes in a structured form). A general system algorithm is applied to a previous state of specifying development of a model, which is determined in a model's external information environment, that is to say, a topical amount of information on an objective area (i.e. recurentively). This principle may be specified by a quote of P. Senge: "System thinking ... needs skills and disciplines enabling creation of new insight, development of intellectual models, and organization of group studying and encouragement of personal mastership". Aside from this opinion, this principle is coherent with a definition of mathematical constructivism: the main method of construction of mathematical theories should not be the deduction, but the constructive and genetic method, according to which any mathematical object and any assertion about it shall be a result of thinking regarding creation of more simple constructions from more complicated constructions on the basis of determined, simple and easily controlled rules of creation, i.e. algorithms, which allow to unambiguously receive a final construction, using a finite number of steps, a finite number of operations and during a finite period of time [1-3].

The principles of constructivism and connectivism of may be adapted to an organization and its information environment in such a way [4]: the principle of self-reference contemplates application of cybernetic systems of the second degree, i.e. space, containing an observer; the principle of circularity results in cycle organization of a system, which can be defined as organizational closure, i.e. closedness, autonomy, compliance between the outcoming information and final information. Any product of such system automatically turns into its outcoming product for a next volute. The principle of spiral development is actively used in the process of information environment formation as a principle of development of collective information knowledge, application of the known ideas and principles at a new level of development; the principle of duality contemplates that a system interrelates with factors of the external environment acting as initiators of continuous structural changes, which form the

dynamics of its states, but always save circularity and closure of an area, which interrelates with the external environment. The information environment expands to interrelate with the external environment, remaining closed at a level of a user and/or a team of users; the principle of cyclical causality in the information environment may be presented as a principle of application of data and knowledge, which become a cause of formation of new ideas and projects, actively influencing development of the information environment and an organization.

Using the definition of P. Senge, which claims that “an organization, which studies is a place, where humans constantly reveal that exactly they create the reality, in which they live and act” [3] and taking into account a fact that a modern successful organization is an organization, which studies, the author suggests that pedagogical theories of education may be used in researches on an activity of organization and its information environment.

The given principles and the approach to the formation of information environment of blended practical education provide the creation of the developed integrated virtual environment of electronic resources with such modules – practical education navigator; motivation tests of practical education; employers knowledge base; knowledge base of candidates for position and participation in projects; social discussion educational-scientific-practical network simulators of practical activity; business games environment.

Among already prepared information communication blocks, based on JetIQ platform environment we can distinguish such blocks as navigator of electronic resources of the courses, web-constructor of tests [5]. Other blocks must be implemented along with integration modules of operating web-resources of practical education.

Possibilities of electronic system of education management and adapted methods of blended practical education, elements of artificial intelligence, special simulators, gamification elements enable to form integrated environment of education results and practical activity of graduates, that will become the platform for communication with employers and the tool, used for increasing motivation of education of the students of higher education establishment; grant foundations.

References:

1. Bonk C. J. The handbook of blended learning environments: Global perspectives, local designs [Electronic resource] / C. J. Bonk, C. R. Graham. - San Francisco: Jossey Bass/Pfeiffer, 2006. - P. 5. - Access mode: http://media.wiley.com/product_data/excerpt/67/07879729/0787972967. - Name of the screen.
2. Кухаренко В. М. Коннективістський дистанційний курс "Змішане навчання" [Електронний ресурс] / В.М. Кухаренко // Матеріали четвертої науково-практичної конференції Теорія і практика використання системи управління навчанням Moodle, Київський національний університет будівництва і архітектури, 19 травня 2016 р.-Режим доступу <http://2016.moodlemoot.in.ua/course/view.php?id=114>. – Назва з екрану.
3. Сенге П. Пятая дисциплина. Искусство и практика самообучающейся организации – Олимп-Бизнес. 2003. – 568 с.
4. Попков В. В. Экономический конструктивизм: инновационный анализ экономических систем [Электронный ресурс] / В.В. Попков // Материалы I Международной научно-практической конференции (Екатеринбург, 25–26 января 2011 г.) "Интеграция науки, образования и производства – стратегия развития инновационной экономики". – Режим доступа: http://arbir.ru/articles/a_2107.htm. - Название с экрана.
5. Паламарчук Є. А. Професійне інформаційне середовище навчального закладу вищої школи — методика, досвід, програмне забезпечення. / Є.А. Паламарчук, О.О. Коваленко //Матеріали сьомої міжнародної конференції "ІНТЕРНЕТ-ОСВІТА-НАУКА-2010", 28 вересня - 3 жовтня, 2010: Збірник матеріалів конференції. - Вінниця: ВНТУ, 2010. С.69-72