

## PEDAGOGICAL CONDITIONS FOR DEVELOPING INFORMATION AND COMMUNICATIVE COMPETENCE OF FUTURE ENGINEERS IN THE PROCESS OF INDEPENDENT EDUCATION

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### Abstract

This in the article independent education in the process future engineers informational and communicative competence development pedagogical conditions scientific in terms of analysis Modern education in the system information technologies intense development engineering in education new approaches demand is doing. This point of view from the point of view independent education process effective organization to grow students' information with work, it analysis to do and professional in activity application skills to develop service does. In the study informational and communicative competence structural components, independent of education content and this competence to develop service doer pedagogical conditions illuminated. Also, digital education environment, innovative pedagogical technologies and electronic education from resources of use efficiency based on given.

**Keywords:** Independent education, information and communication competence, engineering education, pedagogical conditions, numerical education environment, innovative pedagogical technologies, competency approach, electronic education resources, independent reading.

### Introduction

Today globalization in the process education system in front of standing main from tasks one modern knowledge and to skills has was high qualified experts Especially in engineering in the field activity driving experts modern technologies deep acquisition , information with work , it analysis to do and professional in activity application skills has to be necessary [1].

This because of supreme education in the system students independent education activity develop important importance profession Independent education students knowledge independent accordingly to acquire , information search , analysis to do and new knowledge create ability shapes .

Engineering in education informational and communicative competence develop independent education process to the efficiency directly is related . Modern digital education environment students for various kind information from sources use opportunity creates [2] . This because independent education in the process informational and communicative competence develop pedagogical of research current from directions one is considered .

Information and communication competence modern expert's important professional from the adjectives one is considered . This competence person's information search , analysis to do , to repeat work and from it effective use ability represents . Scientific in research informational and communicative competence following from components is considered to consist of :

1. **Information competence** – information search , sort and from it use skills.
2. **Technological competence** – modern information from technologies use ability .
3. **Communicative competence** – information effective transmission and communication to do skills .
4. **Analytical competence** – information analysis to do and problems solution in the process of application ability .

Engineering in education this competencies students professional readiness in formation important role plays .

Independent education students knowledge to take in the process active participation to reach provides [3]. This process students independent thinking , problems solution to do and new knowledge mastery ability develops . Engineering in education independent education following in forms done increased :

- scientific abstracts preparation ;
- project and course works ;
- independent research works ;
- electronic education on platforms assignments to do ;
- virtual laboratory training .

This activities students independent accordingly information search and from it to use teaches [4].

Future engineers informational and communicative competence develop for education in the process following pedagogical the conditions create necessary .

**1. Digital education environment create** . Modern education in the process electronic education platforms , virtual laboratories , multimedia tools and online from resources use students for wide opportunities creates .

**2. Innovative pedagogical methods application** . Problematic education , project based on teaching , interactive methods students independent thinking skills develops .

**3. Students independent activity encouragement .** Independent education in the process students various scientific research take to go through information analysis to do and from it use skills develops .

**4. Information from technologies use skills development**

Computer programs , internet resources , electronic libraries and scientific information bases students for important information sources is considered .

**5. Teacher's methodical leadership .** Independent education in the process teacher students guide , advice giver and scientific leader as activity runs .

Modern education in the process independent education effective organization to grow for following from approaches use important is [5]:

- mixture education ( blended) learning );
- remote education technologies ;
- electronic education platforms ;
- virtual laboratories ;
- multimedia technologies .

This approaches students informational and communicative competence to develop help gives .

Independent education in the process future engineers informational and communicative competence develop modern engineering education important from directions This is one of them . the process effective organization to grow for education in the environment modern information from technologies use , innovative pedagogical methods application and students independent scientific to research attraction to grow necessary [6]. Research results this shows that independent education in the process created comfortable pedagogical conditions students information with work skills to develop and their professional competencies to form service does .

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