

Integrative-differential approach to teaching chemistry

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While working out general conceptual idea of teaching chemistry one should take into account the fact that integrative-differential approach is a determining tendency (trend) in contemporary educational process [1]. Integrative-differential approach is inter-penetration of two opposite processes: integration and differentiation activity as a source of developing and manifesting itself in the process of teaching as a combination of uniqueness, diversity, many-sidedness with universality and integrity. Methodologic system of teaching chemistry at higher school is created. It includes different ways (types) of directing students' professional activity.

Presentation of methodologic system is given on the basis of realization of proposed theoretical concepts on integrative-differential essence of students' independent work. Integrative-differential essence of independent work manifests itself in research forms of teaching students and promotes motivation development to professional activity. It is proved that teaching chemistry on the bases of integrative-differential approach heightens students' independent work efficiency. From conceptual point of view it is proved that creative character of students' activity is manifested in students' project and course work. Elaborated system of students' independent activity in chemistry enlarges diagnostic possibility of general system of educational quality assessment and makes it more objective and professionally specified. Teaching aids and textbooks as well as on-line programs are created to heighten effectiveness of organizing students' independent activity. In the course of undertaken pedagogic investigation it was established that the efficiency of students' independent work was increased, and management functions were gradually transformed from a teacher to a student.

The presented analyses of the elaborated concept of teaching chemistry on the bases of integrative-differential approach stipulates (provides bases to) transition from a particular-subject to integral and integrative-differential systematic approach in teaching chemistry. This, in its turn, will lead to creation of integrative-differential knowledge of chemistry and to an individual development of students' activity.

References

1. N. I. Chuprikova Differentsionno-integratsionnaya teoriya razvitiya [Differential-integral theory of development]. Moscow: Yazyki slavyanskikh kul'tur, (2011) : 496.