TEACHING OF ENGLISH FOR STUDENTS OF CHEMICAL FACULTIES

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Nowadays, when a huge army of Georgian chemists – researchers and practical workers – make the acquaintance of scientific researches of the USA and developed European countries, particular necessity of thorough works on English scientific and in particular, chemical literature is sharply acuted. Proceeded from strict requirements of epoch characterized by progress swift movement, students, research workers and chemists-experimentalists - the Chemical Faculty graduates of Tbilisi State University - beginning their employee careers in both State-owned and private sectors of industrial and scientific branches functioning in Georgia, make a daily acquaintance of both – theoretical and practical parts in a large quantity of scientific-technical chemical material in their particular specialties requiring the English language proficiency skills. Hence, reinforcement of the English language line in chemistry teaching assumes ever greater importance and a special character. Since 1998 we have been introducing a practice of teaching brief review courses corresponding to different fields of chemistry. The course is taught on a basis of contemporary manuals in chemistry practiced at US colleges and universities.

First and foremost, we determined the aims, i.e. expected (conjectural) results of teaching process to the achievement of which were directed concerted actions of the course instructor – certificated in chemistry and English and students in the process of the study of chemistry:

- Professional exploration of the English language in terms of chemical science including besides natural language of words and exercises, highly specific part – chemical terminology, nomenclature, symbolism etc.
- Extension of knowledge acquired in the process of teaching different fields of chemistry.
- Students are instructed individually. During the teaching process lots of English scientific articles and materials are processed with each student according to his/her particular specialty. Students learn specific qualities of written and oral translation of scientific articles from English into Georgian and vice versa, which helps them in their future activities. Therefore, in the end we obtain chemists, being not only masters in English chemical terminology and able to work on English articles in various fields of chemistry, but also skillful in composition and working out of interesting and facile in terms of grammar and contents English articles in their particular specialties.

- At the first level of teaching in baccalaureate a brief entrance course in order to assimilate basic phonetic, lexical and grammatical skills of English, assimilating intent reading skills of English chemical material, stipulating accurate and complete comprehension of texts.

- Program introduced at the courses for master’s degree includes further intensification of students’ grammatical and lexical skills. Students are instructed individually. During the teaching process lots of English scientific articles and materials are processed with each student according to his/her particular specialty. Students learn specific qualities of written and oral translation of scientific articles from English into Georgian and vice versa, which helps them in their future activities. Therefore, in the end we obtain chemists, being not only masters in English chemical terminology and able to work on English articles in various fields of chemistry, but also skillful in composition and working out of interesting and facile in terms of grammar and contents English articles in their particular specialties.

- At the first level of teaching in baccalaureate a brief entrance course in order to assimilate basic phonetic, lexical and grammatical skills of English with intensive exploitation of chemical texts and articles, directed to learning of basic information from the text.

- At the third level students learn fields of chemistry in English briefly, assimilating intent reading skills of English chemical material, stipulating accurate and complete comprehension of texts.

- Program introduced at the courses for master’s degree is taught on a basis of contemporary manuals practiced at US colleges and universities: “Chemistry, an Experimental Science” – George M. Bondar, Harry L. Pardue (Purdue University), “General Chemistry” – Uno Kask, J. David Rawn (Towson State University) and others. Along with the passing of textbook materials students are trained in accurate reading and translation of chemical text originals on a basis of deliberate lexical-grammatical analysis. For this purpose we have been introducing widely articles from the fields being adjacent to chemistry, developing in students abilities of not only lexical and grammatical, but also correct scientific analysis of a given material. Seminars are conducted with a usage of Interactive work and training methods, i.e. every student is engaged and takes part in the process of mastery and training of English with intensive exploitation of chemical texts and articles.

- At the second and third levels students move on to training appliances (e.g. “English for Chemists” – Ts. Botsvadze, G. Areshidze, M. Gvrdistselii) aiming:

  - learning to master in writing and speech with a wide usage of chemical terminology,
  - assimilation of specific vocabulary put in pretext exercises, micro-texts and texts.

- Development of analytical approach to word meaning in a chemical context, i.e. accomplishment of substantiated linguistic guess-work ability, playing an important role in gradual extension of individual vocabulary and therefore, developing skills of chemical text reading with the purpose of information learning.

- Program introduced at the courses for master’s degree is taught on a basis of contemporary manuals practiced at US colleges and universities: “Chemistry, an Experimental Science” – George M. Bondar, Harry L. Pardue (Purdue University), “General Chemistry” – Uno Kask, J. David Rawn (Towson State University) and others. Along with the passing of textbook materials students are trained in accurate reading and translation of chemical text originals on a basis of deliberate lexical-grammatical analysis. For this purpose we have been introducing widely articles from the fields being adjacent to chemistry, developing in students abilities of not only lexical and grammatical, but also correct scientific analysis of a given material. Seminars are conducted with a usage of Interactive work and training methods, i.e. every student is engaged and takes part in the process of mastery and training of English with intensive exploitation of chemical texts and articles.

- It should be mentioned that during the 6 year practice of teaching chemistry in English certain results have been achieved, namely: level of students’ academic advancement has been enhanced, interests of various enterprises and organization in attraction of young and energetic specialists – Graduates of the Chemical Faculty with perfect fluency in chemical English have been risen appreciably. Graduates of the Chemical Faculty successfully pass over difficulties of examination tests for Ph.D. entrance at universities of the USA and European countries and carry out scientific activities in England, the USA and other countries. We believe that on the whole, these results play a role of no a small account in development of not only chemical industry but also of advancement Georgian economics.