The knowledge and competence in different language skills are very important to university students. As university students usually start the English for Specific Purposes (ESP) classes before the course of the future profession, they meet difficulties in reading professional texts. The challenging part of the ESP is unknown vocabulary and technical terms. In order to succeed, learners have to develop skills in reading specialized materials. Recently technology and foreign language education are no longer stranger to one another. The Internet allows students to practice reading online and provides learners with supplementary reading materials on relevant professional issues. The aim of the study is to investigate, first, students’ views on reading online, second, learners’ self-evaluation of reading skills and third, internet-based reading effectiveness. To establish relation between self-evaluation and students’ performance in reading activities pre- and post- tests were carried out. Research was based on a survey administered in the form of a questionnaire and reading comprehension tests. The sample consisted of 188 second year students specializing in Computer Science and Civil Engineering at Kaunas University of Technology. The students had English classes 5 hours a week and their level of language was advanced. A number of activities that are beneficial for students’ reading development were done once a fortnight in computerized classrooms. The survey was carried out in the academic year 2012. The findings of the survey suggest that 80% of respondents think that reading professional materials is very useful. Self-assessment of reading proficiency shows that 75% of students consider their reading skills to be very good or good. To measure respondents’ reading competence comprehension tests were used. Pre-test results show that 45% of students have very good or good reading skills. Post-reading results reveal that 60% of learners are good readers. Consequently, the results reflect that internet-based reading can help students develop reading skills. On the other hand, students overestimate their reading competence.