One of the advantages of computer adaptive testing (CAT) is generally regarded as shortening test length without losses in accuracy. In order to achieve this advantage, most CAT algorithms select items that each test-taker should be able to answer correctly at 50% chance level because it maximizes test information for each test-taker. However, previous studies suggested that experience of taking CAT discourages students and may cause backwash effects such as loss of learning self-efficacy and motivation because most of them felt the test had been "difficult," and many felt "discouraged" or "unsatisfied" with the experience.

The authors developed Moodle-based CAT system with a corpus-driven lexical item bank for ESP. About 300 Japanese university freshmen took the five CATs with different item selection rules using the same corpus-driven lexical item bank. The first CAT selected 16 items that test-takers should be able to answer correctly at 50% chance level (rather difficult items). The second CAT selected 25 items that test-takers should be able to answer correctly at 80% chance level (easier items). The third, fourth and fifth CATs selected 19 items with mixed targeted item difficulties: 11 rather difficult items and eight easier items. The third CAT selected easier items for the first eight items, while the fourth CAT selected easier items for the last eight items. The fifth CAT selected easier items for both the first and the last four items. Theoretically these five CATs are supposed to reach about the same measurement precision.

Following the authors’ previous studies, the test-takers were asked about their feelings immediately after each CAT administration in order to reveal how they feel about each CAT and which type of CAT they prefer. The details of the results will be presented and discussed at the conference.

Keywords: learning self-efficacy, computer adaptive test.