The use of connected computers as interactive tools in the creation and presentation of media-rich content for teaching and learning is increasing rapidly. In the not too distant future, educational activity will no longer be restricted to print based materials, time or space. A readily accessible web-based learning environment will be expected. While it is technically possible to make media rich material available, this is an expensive activity. Institutions as well as teachers will want to be assured that the materials are of the highest standards and fit for their purpose. This paper outlines the process and procedures used in the development of an instrument to investigate students’ perceptions of digital materials presented in an English language course at a college in Japan. It also describes how a perceptual measure can be used to evaluate whether the content presented meets the learners’ needs. After an extensive review of the literature an instrument was created to investigate student’s perceptions of their experiences in an online learning environment. The instrument was based on four (4) scales, computer competence, active learning, reflection and information design and appeal. Each scale consisted of 6 question items. Each of the scales and items had been used in previous learning environment research and could be considered to be reliable. A web-based form of the instrument was created, in both English and Japanese, using the question and quiz functionality of the open source learning management system “Moodle”. The form was made accessible to English language students at the college. The sample for the initial study comprised 90 college students. The initial, tentative findings of the study indicated firstly, that provision of technical support is crucial in ensuring ongoing learner engagement. Secondly, digital materials created for students with a high degree of interactivity and feedback are most valued. Thirdly, digital materials created for learners should be graphic rich and visually appealing. Finally, the enhancement of traditional courses by providing access to digital materials is appreciated by students. This study also found that student expectations of digital environments were high. They believed they would learn more in these virtual environments and they would be motivated by digital material and electronic activities. These findings appear to indicate that students want to engage with materials with a high degree of interactivity and feedback. This has implications for developers and institutions since materials created for learners need to utilize appropriate instructional design strategies and technique. The authors are conscious that there are limitations to this exploratory study in that the sample, based within one institution, and of limited size, is a sample of convenience and thus not truly representative of all current students in English language courses. However, the authors believe the further development and refinement of perceptual measures for exploring the deployment of digital materials in networked learning environments would be most valuable in enhancing and monitoring the efficiency of web-based learning. Keywords: evaluation, perceptual measure, learner support, course development