Attitude Toward Computers

**Instrument:** Computer Attitude Questionnaire (CAQ)

**Scale/Subscale Name:** Attitude toward computers

**Source:** Computer Attitude Questionnaire (CAQ), Texas Center for Educational Technology [http://www.tcet.unt.edu/pubs/studies/index.htm](http://www.tcet.unt.edu/pubs/studies/index.htm)

**Developers:** G. Knezek and other researchers at the Texas Center for Educational Technology

**Year:** 1997 (Versions 5.14 and 5.22); previous versions from mid-1990s

**Target Audience(s):** Students grades 4-12

**Language other than English available:** Japanese, Spanish

**Type:** Attitude

**Data collected:** Quantitative

**Data collection format:** Self report – Pre/post

**Reading Level:** Flesch-Kincaid Grade level: 4.4


**Level of training necessary for administration/scoring/interpretation:** None necessary for administration. Some knowledge of measurement (i.e. reverse scoring) and statistical software packages (i.e. SPSS) helpful for scoring.

**Widespread Use/Professional Endorsements:** Listed on CYFERnet; Knezek, G. and Christensen, R. (1997). *Attitudes Toward Information Technology at Two Parochial Schools in North Texas*. Denton, TX: Texas Center for Educational Technology.


Cost of Use: No cost is associated with the use of this survey. Developers request that users give proper credit to their source(s), and share with the authors and others the results of their findings.

Description:
- The CAQ is designed to measure attitudes (feelings toward a person, or thing) and prevailing attitudes (dispositions).
- 85-item, 5-point Liker-type self-report questionnaire to be used with students in the ninth through twelfth grades. CAQ includes the seven YCCI separate subscales (Computer Importance; Computer Enjoyment; Study Habits; Empathy; Motivation/Persistence; Creative Tendencies and School) plus subscales for Anxiety and Email Use. The CAQ also includes three paired-comparison sets.
- The CAQ Subscales can be used separate from instrument.

Psychometrics:
Information on reliability and validity are provided below. If information on a particular psychometric was not found, it is indicated as “no information provided.” It should be noted that this is not necessarily an indication of a lack of reliability or validity within a particular scale/instrument, but rather a lack of rigorous testing, for various reasons, by the developers or other researchers.

Reliability: A correlation of at least .80 is suggested for at least one type of reliability as evidence; however, standards range from .5 to .9 depending on the intended use and context for the instrument.

Internal Consistency (Subscales): (from 1998) Computer Importance (.82); Computer Enjoyment (.82); Study Habits (.82); Empathy (.87); Motivation (.80); Creative Tendencies (.86); Anxiety (.84); Seclusion (.81).
Internal Consistency (For Paired-Comparison Items): (from 1993—assumed by developer to be similar to YCCI) Computer Preference (.90), Computer Difficulty (.89), and Computer Learning (.92).
Inter-rater reliability: No information provided
Test-Retest: No information provided
Validity: The extent to which a measure captures what it is intended to measure.

From instrumentation study on the CAQ by Knezek and Miyashita (1994):

Content/Face Validity: Content validity for the CAQ is believed to be quite high. It was based heavily on the Young Children’s Computer Inventory (YCCI). Approximately one dozen researchers, early childhood specialists, teachers, and parents contributed their expert judgments to the selection and wording of items for the YCCI.

Criterion Validity: None reported specifically for the CAQ; evidence from analyses of variance and discriminant function results indicated that the YCCI possessed an acceptable degree of criterion-related validity.

Construct Validity: Factor analyses have been conducted resulting in 6 meaningful subscales (Version 5.14). The YCCI construct validity has been found to be stable over time, and reasonably consistent across cultures.
Construct: Technology - Attitudes

Scale Name: Attitudes towards computers/technology

Developers: G. Knezek and other researchers at the Texas Center for Educational Technology

Instructions: Read each statement and then circle the number which best shows how you feel.

Rating Scale:
1 = Strongly Disagree
2 = Disagree
3 = Undecided
4 = Agree
5 = Strongly Agree

(1) I enjoy doing things on a computer.
(2) I am tired of using a computer. (R)
(3) I will be able to get a good job if I learn how to use a computer.
(4) I concentrate on a computer when I use one.
(5) I enjoy computer games very much.
(6) I would work harder if I could use computers more often.
(7) I know that computers give me opportunities to learn many new things.
(8) I can learn many things when I use a computer.
(9) I enjoy lessons on the computer.
(10) I believe that the more often teachers use computers, the more I will enjoy school.
(11) I believe that it is very important for me to learn how to use a computer.

Rating Scale:
1 or 2 as indicated

(12) Which would you rather do? (circle one of each pair):
   a. (1) read a book or (2) write
   b. (1) write or (2) watch television
   c. (1) watch television or (2) use a computer
   d. (1) use a computer or (2) read a book
   e. (1) read a book or (2) watch television
   f. (1) write or (2) use a computer

(13) Which would be more difficult for you (circle one of each pair):
   a. (1) read a book or (2) write
   b. (1) write or (2) watch television
c. (1) watch television or (2) use a computer

d. (1) use a computer or (2) read a book

e. (1) read a book or (2) watch television

f. (1) write or (2) use a computer

(14) Which would you learn more from (circle one of each pair):
a. (1) read a book or (2) write

b. (1) write or (2) watch television

c. (1) watch television or (2) use a computer
d. (1) use a computer or (2) read a book
e. (1) read a book or (2) watch television

f. (1) write or (2) use a computer

Rating Scale:
1 = Strongly Disagree
2 = Disagree
3 = Undecided
4 = Agree
5 = Strongly Agree

(15) Electronic mail (E-mail) is an effective means of disseminating class information and assignments.

(16) I prefer E-mail to traditional class handouts as an information disseminator.

(17) More courses should use E-mail to disseminate class information and assignments.

(18) E-mail provides better access to the instructor.

The use of E-mail creates more interaction between students enrolled in the course.

(19) The use of E-mail creates more interaction between student and instructor.

(20) The use of E-mail increases motivation for a course.

(21) The use of E-mail makes a course more interesting.

(22) The use of E-mail makes the student feel more involved.

(23) The use of E-mail helps the student to learn more.

(24) The use of E-mail helps provide a better learning experience.

Access Questions: Not scored
(25) Do you use a computer at home? Yes ______ No ______
(26) Do you have world wide web (www) access at home? Yes ___ No ___
(ex. CompuServ, America On-line, etc.)
Scoring:

- Item 2 is reversed scored (5=Strongly disagree to 1=strongly agree).
- Questions 26-27 are demographics and are not scored.
- Sum the numeric values of the responses for the items to produce scores, subtract by 40 (total number of items—12-14 are six items each), range of scores=0 through 106.
- Higher scores indicate more positive attitudes toward computers.
- Additional information on the instrument and scoring may be found at: [http://www.tcet.unt.edu/pubs/studies/index.htm](http://www.tcet.unt.edu/pubs/studies/index.htm)