

Information about the Center for Digital Literacy Surveys

Prepared by Dr. Marilyn P. Arnone

Official Scale Name: PERCEIVED COMPETENCE IN INFORMATION SKILLS (PCIS)	
Also referred to as:	<i>Confidence in Information Skills</i> (on student version)
Author(s)	Dr. Marilyn P. Arnone and Dr. Ruth V. Small (2008)
Explanation: Competence is an important psychological need discussed in Self-Determination Theory (e.g., Deci & Ryan, 2008) and acknowledged in many other theories. It would stand that perceived competence in information skills would facilitate goal attainment. Perceptions of competence have been used in studies to predict performance. Knowing where students perceive themselves as lacking in competence is important to school librarians and classroom teachers. This scale has 17 items and was validated with more than 1200 8 th grade students across 20 states.	
Practical Uses	Identify gaps in student confidence without using a test. Once gaps in students' confidence in information skills are identified, educator can plan instruction to target specific skills. Your students should understand that responding to this measure will help you plan instruction as opposed to you grading them on their responses. There are no right or wrong answers.
Publication(s)	This scale has been reported in several publications including a paper on the development of this scale to be presented at the November 2009 AASL Conference in Charlotte, NC. It was also described in the July 2009 issue of the journal <i>School Libraries Worldwide</i> .
Reliability	This measure has high reliability (Cronbach's alpha = .93) as reported in the publications above.
Validity	Construct validity for this measure was obtained by correlating it with a validated and widely used instrument from the family of Self-Determination (SDT) questionnaires, the 4-item Perceived Competence in Learning (PC) scale applied to the domain of general research ability ($r = .74, p < .01$). The more specific PCIS measure also correlated significantly with a test of actual IL knowledge and skills using the validated <i>Tools for Real-time Assessment of Information Literacy</i> (TRAILS) measure ($r = .41, p < .01$). To achieve a significant correlation between a measure of motivation and a measure of achievement (as opposed to another similar measure of motivation) added further support for validity.

Continue for more scales . . .

Official Scale Name: Intrinsic Motivation to Engage in Research (IMR)	
Also referred to as:	<i>Feelings About Doing Research</i> (on student version)
Author(s)	Dr. Marilyn P. Arnone (2008)
Explanation: “This brief 5-item scale was labeled <i>Feelings About Doing Research</i> on the student survey. Intrinsic motivation is described by Ryan and Deci (2000) as the ‘inherent tendency to seek out novelty and challenges, to extend and exercise one’s capacities to explore and to learn’ (p. 70). The purpose of this measure was to determine whether students’ would engage in research for intrinsic motives as a source of positive affective experiences (i.e., enjoyment, value, curiosity, choice and freedom, and competence).” –excerpted from <i>School Libraries Worldwide</i> (July 2009).	
Practical Uses	Discover whether your students see the intrinsic value of having the ability to do their own research for their own purposes. If you find students score low on this measure, consider adding motivational strategies to your lesson plans that awaken them to the choices, freedom, and enjoyment of what having these skills can do for them. Modeling your own enthusiasm for research is one excellent strategy to incorporate.
Publication(s)	<i>School Libraries Worldwide</i> , Volume 15, Number 2, July 2009, pages 115 – 134. (Arnone, Reynolds & Marshall)
Reliability	Factor analysis using principal component analysis showed that all five items loaded on one factor we refer to as the latent variable of “intrinsic motivation.” Reliability using Cronbach’s alpha was .85 which is reasonable for such a brief measure.
Validity	Construct validity for this measure was obtained by correlating it with the Perceived Competence in Information Skills (PCIS) scale. It was expected that there would be a significant relationship between the scales as perceived competence contributes to overall intrinsic motivation. The two measures were correlated at $r = .69$, $p < .001$.

Continue for more scales . . .

Official Scale Name: PERCEIVED AUTONOMY SUPPORT BY SCHOOL LIBRARIAN (PAS)	
Also referred to as:	<i>Learning Climate Questionnaire</i>
Author(s)	This 6-item measure was adapted from the <i>Learning Climate Questionnaire</i> (LCQ) of the SDT family of questionnaires. The LCQ has been adapted for use across different domains including children's education (e.g., Gagne, 2003; Grolnick & Ryan, 1987). This version was adapted for use in school libraries by Dr. Marilyn P. Arnone and Dr. Ruth V. Small (2007 pilot study followed by main study in 2008) with input from Dr. Edward Deci from the University of Rochester.
Explanation: SDT also holds that motivation, performance and well-being in individuals is influenced by the degree of autonomy supportiveness (as opposed to control) felt in social contexts such as work, school, and at home. This scale addresses students' perceived autonomy support in the school library context.	
Practical Uses	Discover if students who visit the school library and/or engage in planned curricula with their school librarian perceive him/her to be supportive of their autonomy or independence. The journal article listed below provides several strategies for supporting autonomy in the school library context. Students must understand that this measure will not be graded and has no right or wrong answers.
Publication(s)	<i>School Libraries Worldwide</i> , Volume 15, Number 2, July 2009, pages 115 – 134. (Arnone, Reynolds & Marshall)
Reliability	This measure has high reliability (Cronbach's alpha = .94) as reported in the publication above. Numerous other studies using the <i>Learning Climate Questionnaire</i> in other domains have also demonstrated high reliability.
Validity	The general measure of the <i>Learning Climate Questionnaire</i> has been validated in numerous studies. In the study identified under Publications above, the scale designed specifically for the library context also correlated with <i>Perceived Competence in Information Skills</i> ($r = .31, p < .001$) and <i>Intrinsic Motivation to Engage in Research</i> ($r = .30, p < .001$) which could be considered related constructs.

Continue for more scales . . .

Official Scale Name: PERCEIVED COMPETENCE IN RESEARCH ABILITY (PCR)	
Also referred to as:	<i>The Perceived Competence Scale</i> (in SDT literature)
Author(s)	The Perceived Competence Scale was developed by Dr. Edward Deci and researchers from the University of Rochester and applied to the domain of general research ability by Drs. Marilyn Arnone, Ruth Small and Rebecca Reynolds from the Center for Digital Literacy and the School of Information Studies at Syracuse University in consultation with Dr. Edward Deci.
Explanation: This is a brief 4-item general perceived competence measure (pertaining to ability to do research). It does <u>not</u> contain the specific items related to information skills that the Perceived Competence in Information Skills (PCIS) instrument does. It was originally used as a measure of construct validity for the new and more specific PCIS measure.	
Practical Uses	While this instrument was originally used as a measure of construct validity by the authors noted above, it could also prove to be a useful measure for school library media specialists and classroom teachers. The PCR can serve as a quick “snap shot” of students’ general confidence in their ability to do research without the specificity of items related to particular information skills. At only 4 items, it is brief and easy to administer. For more detailed analysis of students’ gaps in confidence across a variety of information skills used in research, the longer PCIS measure is recommended.
Publication(s)	Arnone, Small & Reynolds (2009). Developing the PCIS (Perceived Competence in Information Skills) Measure For Eighth Grade Students. <i>AASL 2009 Conference Paper</i> , Charlotte, NC.
Reliability	This general measure of perceived competence has consistently reported high reliability across studies in a variety of domains at .90 or above. In the pilot study described in the article under Publications, the instrument also had high internal consistency at Cronbach’s alpha = .90.
Validity	There was a strong and significant correlation between this general measure of research ability and the more specific Perceived Competence in Information Skills (PCIS) scale thus contributing to the validity of the new PCIS scale. ($r = .74, p < .01$).

Continue for more scales . . .

Coming Soon . . .

The following scales were also developed in conjunction with CDL research on affective and motivational components of information and digital literacy. They will be available in electronic format by the end of the Fall 2009 semester.

Official Scale Name: GENERAL TECHNOLOGY MOTIVATION SCALE	
Also referred to as:	<i>The Perceived Competence Scale</i> (in SDT literature)
Author(s)	Dr. Rebecca Reynolds, Syracuse University Center for Digital Literacy, based on the research of University of Rochester researchers.
Explanation: This is a 9-item construct that reflects an additive mean combination of several technology motivation items, each measured on a 5-point Likert scale. It is based on the research of University of Rochester researchers and applied to the domain of technology use, in general.	
Practical Uses	Recommended as “snap shot” of students’ general motivation towards digital technology and its use.
Publication(s)	Publications in progress
Reliability	TBA
Validity	TBA

Official Scale Name: SUPPORTIVENESS OF THE SCHOOL ENVIRONMENT FOR TECHNOLOGY USE	
Also referred to as:	<i>N.A.</i>
Author(s)	Dr. Rebecca Reynolds, Syracuse University Center for Digital Literacy
Explanation: This is a 6-item construct that reflects an additive MEAN combination of items reflecting the supportiveness of the student’s school environment for technology use.	
Practical Uses	
Publication(s)	Publications in progress
Reliability	TBA
Validity	TBA

Official Scale Name: SUPPORTIVENESS OF THE HOME ENVIRONMENT FOR TECHNOLOGY USE	
Also referred to as:	<i>N.A.</i>
Author(s)	Dr. Rebecca Reynolds, Syracuse University Center for Digital Literacy
Explanation: This is a 9-item construct that reflects an additive MEAN combination of items reflecting the supportiveness of the student's home environment for technology use.	
Practical Uses	
Publication(s)	Publications in progress
Reliability	TBA
Validity	TBA

Official Scale Name: THE DISPOSITIONS FOR LEARNING SCALES (DLS - VERSION 1.0)	
Also referred to as:	<i>N.A.</i>
Author(s)	Dr. Marilyn P. Arnone, based on AASL's Standards for the 21 st Century Learner and Self-Determination Theory
Explanation: Skills alone are insufficient for success in learning and in the workplace in today's world. It is also critical for students to develop positive dispositions for learning. Each of the subscales attempt to assess these dispositions which include curiosity, creativity, interest, reading enjoyment, literacies appreciation, teamwork and respect, and self direction and productivity.	
Practical Uses	Action-based research in schools and libraries
Publication(s)	Some of the results of these scales have been reported in an ASIST paper for 2009 Conference in Vancouver, BC and in an online discussion paper for the 2009 ALISE Conference. Details to follow.
Reliability	Reliability of scales ranged from .77 to .88 and will individually be reported when electronic versions of these scales are made available.
Validity	Principal Component Analysis was performed on each scale to determine factor loadings. TBA