ARMY RESEARCH LABORATORY

Survey Results for the Development of the Academic Class Composite Tool for the Academic Instructors and Supervisors

by Carita A. DeVilbiss and Valerie B. Rice

ARL-MR-0677 **October 2007**

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REPORT DOCUMENTATION PAGE

Form Approved
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1. REPORT DATE *(DD-MM-YYYY)*	2. REPORT TYPE	3. DATES COVERED (From - To)
October 2007		

4. TITLE AND SUBTITLE

Survey Results for the Development of the Academic Class Composite Tool for the Academic Instructors and Supervisors

5a. CONTRACT NUMBER

5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)

Carita A. DeVilbiss and Valerie B. Rice (both of ARL)

5d. PROJECT NUMBER

62716AH70

5e. TASK NUMBER

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

U.S. Army Research Laboratory
Human Research and Engineering Directorate
Aberdeen Proving Ground, MD 21005-5425

8. PERFORMING ORGANIZATION REPORT NUMBER

ARL-MR-0677

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSOR/MONITOR'S ACRONYM(S)

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT

Approved for public release; distribution is unlimited.

13. SUPPLEMENTARY NOTES

14. ABSTRACT

The ability to maintain unit readiness and mission effectiveness in the midst of the increasing demands of warfare ultimately depends on the performance of the Soldier. The retention and overall performance of Soldiers can be affected by a variety of personal, situational, and organizational factors, particularly in dynamic and stressful environments. Throughout the U.S. Army, following basic training, Soldiers are prepared for challenging Advanced Individual Training (AIT) programs. Although AIT programs are specific for each career field, all programs share the same general characteristics of the current population of incoming Soldiers. Issues such as academic attrition are not limited to a single military occupational specialty.

This report presents results from a survey of 113 academic instructors to validate the design definition of the *Academic Class Composite Tool* (AC^2T), one of two specialized tools for the 91W AIT program. Although the main tool, i.e., the *Personal Academic Strategies for Success*, is being developed for use by individual Soldiers upon arrival for their AIT course, the *AC^2T* is designed for use by the academic instructors, drill sergeants, and supervisors. That report documented the first level design specifications for the Academic Class Composite Tool and collected initial data to verify user input. This report fulfills the next step in the path forward by replicating the survey that was administered to the drill sergeants with the academic instructor population.

15. SUBJECT TERMS

academic; attrition

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Carita A. DeVilbiss
Unclassified	Unclassified	Unclassified	SAR	40	19b. TELEPHONE NUMBER (*Include area code*) 210-221-0590

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Executive Summary

This report presents results from a survey of 113 academic instructors to validate the design definition developed in the initial report: *"The 'Academic Class Composite Tool' for the Academic Instructors and Supervisors: Definition and Development* (Rice et al., 2006). That report summarized the process used in the design and definition of the *Academic Class Composite Tool* (AC^2T), one of two specialized tools for the military occupational specialty 91W, Health Care Specialist, Advanced Individual Training (AIT) program. While the main tool, i.e., the *Personal Academic Strategies for Success*, is being developed for use by individual Soldiers upon arrival for their AIT course, the *AC^2T* is designed for use by the academic instructors, drill sergeants, and supervisors. That report documented the first level design specifications for the Academic Class Composite Tool and collected initial data to verify user input.

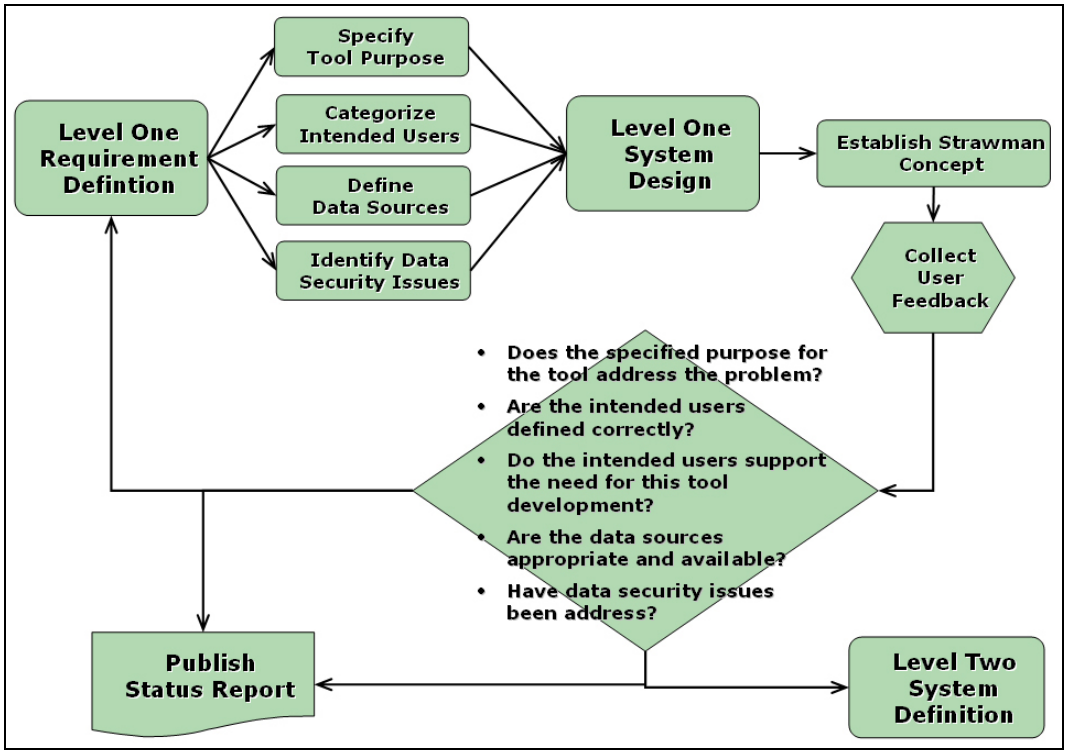

Figure 1. Flow diagram of the work contained in this report.

This report fulfills the next step in the path forward by replicating the survey that was administered to the drill sergeants with the academic instructor population.

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1. Introduction

The ability to maintain unit readiness and mission effectiveness in the midst of the increasing demands of warfare ultimately depends on the performance of the Soldier. The retention and overall performance of Soldiers can be affected by a variety of personal, situational, and organizational factors, particularly in dynamic and stressful environments. Throughout the U.S. Army, following basic training, Soldiers are prepared for challenging advanced individual training (AIT) programs. Although AIT programs are specific for each career field, all programs share the same general characteristics of the current population of incoming Soldiers. Issues such as academic attrition are not limited to a single military occupational specialty (MOS). To develop AIT-specific tools for the individual Soldiers and their leadership, this study focuses on one specific MOS (Banderet et al., 2004). However, the methodology used and lessons learned in this study should be applicable to other challenging AIT programs across the U.S. Army.

1.1 MOS 91W

In a war-time environment, it is especially important for the Army to ensure maximum cognitive readiness of those Soldiers in addition to physical and emotional readiness. The first level of health care provider on the battlefield is the MOS 91W Health Care Specialist, who could be called upon to care for casualties for as many as 72 hours on the battlefield. In October 2001, the Army implemented the MOS 91W as a result of the changing nature of warfare, including increasingly dispersed battlefields and high demands on the combat medic. The MOS was created to ensure that combat medics are capable of performing emergency medical and life-saving trauma care techniques, including critical skills in trauma assessment, advanced airway and shock management, and intravenous therapy. The principal duties of the 91W vary, depending on experience and grade, but include critical tasks such as providing emergency medical treatment, limited primary care, force health protection and evacuation, and support in operational and clinical settings, from the point of injury or illness through the continuum of health care (U.S. Army Medical Department Center & School [AMEDD C&S], 2004).

1.1.1 AIT Course

To prepare Soldiers for the requirements of being a 91W Health Care Specialist, the Army provides an intensive 16-week AIT program at the AMEDD C&S, Department of Combat Medic Training (DCMT) at Fort Sam Houston, Texas. Eighteen of these 16-week AIT program are conducted annually, with each course beginning with approximately 400 Soldiers. The first seven weeks of training involve cardio-pulmonary resuscitation and emergency medical training, followed by nine weeks of classroom lecture, interactive computer training, and life-sized patient simulation, to develop the core skills required for combat casualty care. The increased skill level

of the 91W has led to greater responsibility, including the supervision of other health care providers and treatment facilities (Department of the Army, 2005).

1.1.2 91W Course Statistics

This relatively new MOS has documented a high rate of academic failures and Soldier recycles during AIT. In 2003, a typical 91W class at Fort Sam Houston was composed of approximately 80% new and 20% recycled Soldiers. Approximately 65% of new and 35% of recycled Soldiers graduated, resulting in an overall passing rate of 59% for the 91W AIT. Of 25 medical MOS training programs on Fort Sam Houston, the 91W MOS has one of the top five highest attrition rates. To provide further insight into this problem, the acting Dean of the AMEDD C&S, Brigade and Battalion Commanders, and Battalion Command Sergeants Major arranged focus groups on 91W attrition. All available 91W instructors and drill sergeants[1] participated in a focus group with no more than 12 participants in a focus group session at one time. The key issues identified by these focus groups that contribute to poor academic performance and the high failure rate in the 91W MOS include self motivation, stress (life, family, classroom, and organizational), resiliency, coping, life skills, attention difficulties and impulsivity, cognitive ability and learning styles, previous exposure to medical terminology, and life stage or maturity level.

1.2 Protocol

With the focus group results and the support of the AMEDD C&S, an extensive literature review was conducted, resulting in the U.S. Army Research Laboratory (ARL) Protocol 20050708, "Identifying Personal Factors Related to Soldier Performance and Retention Among 91W Health Care Specialists at Fort Sam Houston, Texas". This protocol investigates the personal characteristics of the Soldiers enrolled in the 91W AIT course and how those characteristics may predict academic performance and retention. These results were used to develop two specialized tools for the 91W AIT program.

1.2.1 PASS

The *Personal Academic Strategies for Success (PASS)* tool is developed for use by individual Soldiers upon arrival for their AIT course. After a Soldier completes a short computer-based questionnaire, the PASS tool calculates the individual scores and presents the Soldier with appropriate academic strategies that s/he can use to enhance his or her academic performance. The details of the design and construction of this tool will be the focus of a separate technical report (Rice et al., 2006).

1.2.2 AC^{2}T

The *Academic Class Composite Tool (AC^{2}T)* is related to the PASS but developed for use by the instructors and leadership of the AIT class. After all the incoming Soldiers have been given an

[1] It is the primary job of drill sergeants to supervise the daily activities of the Soldiers and provide military training. Instructors provide academic training, although drill sergeants occasionally assist them.

opportunity to use PASS to obtain individual assistance with their academic success, all of the input for that class will be consolidated into a composite of the class as a whole. The instructors and academic leadership will only be provided with the composite data—never information about any specific Soldier. The definition and development of AC^2T is the focus of this report.

1.3 Objective

The objective of this report is to replicate the users' survey given to the drill sergeants in the definitions stage (DeVilbiss & Rice, 2005) with the academic instructor population. These results will validate the design definition developed in the initial stages of this project and documented in the initial report.

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2. Methodology

2.1 Requirement Definition

As discussed, the referenced protocol (ARL 20050708) focused on identifying key individual factors that could be used to identify academic strategies that the Soldier could chose to employ to influence his or her academic success. The AC^2T for the instructors and leaders was developed to maximize the use of the information provided by the Soldiers within each AIT class. In general, there are broad categories of AC^2T users and each will provide a unique perspective. The AC^2T will benefit each user group differently: drill sergeants, local leadership, and academic instructors. The first set of survey data was obtained primarily from the drill sergeants. This survey focused on obtaining the same survey data from the instructor population. In addition, a small group of local leadership personnel were surveyed in both survey administrations.

2.2 Instructor and Supervisor Survey

This survey replicated the first level of testing survey during the design phase of the tool development with the drill sergeants (Szewczak & Snodgrass, 2002). Instructors and local leadership for the 91W AIT program at the DCMT participated in this survey. Refer to appendix A to review the final survey form. The survey was constructed to obtain an assessment with these four distinct areas from the intended users within DCMT.

2.2.1 Perception

Four statements are included to document the degree to which the instructors and leadership perceive academic attrition to be a problem within DCMT. Participants rate each statement with a five-point Likert scale with anchors: "strongly disagree," "disagree," "neutral," "agree," and "strongly agree". The statements are spread within the survey.

2.2.2 Influence

Another key area to document is the degree to which the participants believe that overall academic attrition levels among the Soldiers can be influenced. These items are structured to obtain data about whether the participants feel they can influence attrition and whether they believe it can be influenced in a general sense. The success of any tool, such as AC^2T, depends upon whether the intended users are motivated to obtain additional information and suggestions to help them influence attrition. If the intended users do not feel there is a problem or if they believe that nothing can influence the trend, the AC^2T will not be a successful application.

2.2.3 Content

The survey to this point has been constructed to document whether the instructors, drill sergeants, and local leadership perceive attrition as a problem and their belief that they can influence attrition. That information is needed to validate the initial system requirement definition for the tool development. The next series of items included in the survey is to document the users' insight into what they perceive would be useful information. This will provide the initial concepts of users for quantitative information display.

2.2.4 Format

The final area to be addressed in the survey is to obtain feedback on a "strawman" display format with representative data. When the supervisors look at the overall picture of their company, how should the information be displayed (in numerical form, graphical form, with suggestions for types of intervention groups or should that decision be totally left to the unit [and will they understand enough to independently make decisions without guidance])?

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3. Results and Discussion

3.1 Participants

The DCMT is aligned with the 32nd Medical Brigade, Fort Sam Houston, which also contains the 232nd Medical Battalion. During March 2006, 112 participants (i.e., 105 instructors and 7 local leaders) from the 232nd Medical Battalion completed the leadership survey. Only 107 participants provided data about their experience in their current position. Table 1 presents the demographics for these 107 participants, stratified by the experience levels in 6-month increments. For the remainder of the analysis, one group includes the local leaders, and two groups represent the instructors (i.e., "new" and "seasoned" instructors), based upon their reported experience as instructors provided in table 1.

Table 1. Demographics of the participants.

Experience in Current Position		Participants		Age		
		males	**females**	**min**	**avg**	**max**
Instructors	0 to 5 months	7	1	26	32.6	41
	6 to 11 months	20	8	23	33.9	49
	12 to 17 months	12	5	26	35.4	46
	18 to 23 months	14	4	25	33.7	41
	24 to 35 months	9	4	29	39.8	54
	36 to 47 months	9	2	28	38.4	56
	$\geq$ 48 months	3	2	25	38.8	49
Leaders	$\leq$ 3.5 years	7	0	29	37.4	49

3.1.1 New Instructors

There were 53 instructors who reported being in this current instructor position for less than 18 months. In this group, there were 39 males and 14 female instructors. They ranged in age from 23 to 49 years of age, and on average, they were 34.2 years of age. This group reported that, on average, they had 9.6 months experience in their current position.

3.1.2 Seasoned Instructors

There were 47 instructors who reported being in this current instructor position for 18 months or longer. In this group, there were 35 males and 12 female instructors. The seasoned instructors ranged in age from 25 to 56 years of age, and on average, they were 37.7 years of age. This group had 2.5 years of experience on their current position as an instructor. The length of experience ranged from 18 months to 6 years.

3.1.3 Leaders

All seven of the local leaders who participated in this study were male. They ranged in age from 25 to 56 years of age, and on average, they were 37.6 years of age. On average, this group reported 2 years and 1 month experience in their current position.

3.1.4 Other Instructors

As discussed earlier, 5 of the 112 participants who completed the survey intentionally omitted their years of experience from their survey form. Since they completed all the other questions within the survey, it is assumed that omitted the experience level was an attempt to remain anonymous. The responses from this small group tended to differ from the other instructors on a few key questions, for example, whether academic attrition is a problem. Therefore, it was decided to keep this group separate and discuss as appropriate. This small group included one male, three females, and one who chose not to complete the gender question. Their ages ranged from 24 to 41 years of age, with an average of 32.5 years.

3.1.5 Drill Sergeants' Study

Previously, this questionnaire was given to 47 drill sergeants. To provide a direct comparison between their responses, the results from the drill sergeants are included with the new results in this survey. The drill sergeants' study included 47-drill sergeants (34 males and 13 females) and 13 local leaders (11 males and 2 females). The ages of those participants ranged from 26 to 46 years of age, with the average ages of the drill sergeants and local leadership being 32.9 years and 35.1 years, respectively.

3.2 Results: Perception

The survey instrument included four statements that were included to document the degree to which the instructors and leadership perceive academic attrition to be a problem within DCMT. Participants recorded their level of agreement with each of the four statements with a five-point Likert scale with anchors: "*strongly disagree*," "*disagree*," "*neutral*," "*agree*," and "*strongly agree*".

3.2.1 Attrition as a Problem

Two parallel statements were positioned at different points in the survey to assess whether the participants perceived academic attrition as a problem. Responses to these two statements are combined and presented as figure 2 to investigate the level to which the instructors and local leadership perceive attrition as a problem within the 91W program. In the previous study with drill sergeants, 40% of the participants indicated agreement that academic attrition is a problem, while 17% do not perceive attrition is a problem. In the current study, the level of agreement that attrition continues to be a problem is around the same level for the instructors and leaders (41.1%, 38.3%, and 50.0%, respectively). This question was one where the group of five instructors who did not indicate their years of experience, expressed a stronger response with 70% agreement that attrition in the 91W program is a problem.

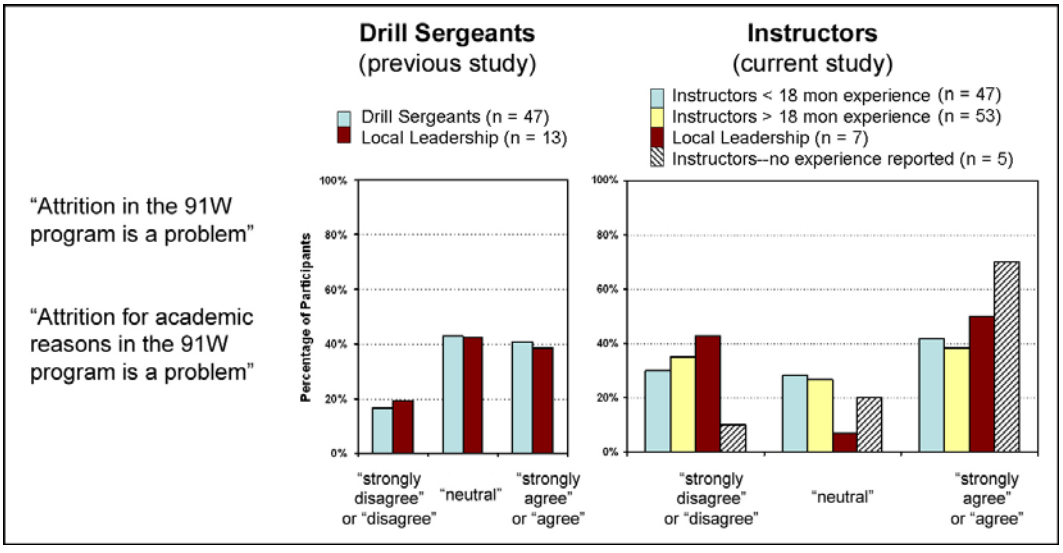

Figure 2. Perception of academic attrition as a problem.

3.2.2 Attrition as a Problem Within DCMT

A third item statement was included to investigate the perception of academic attrition specifically within the DCMT. In figure 3, it can be seen that the responses of the instructors is consistent with the earlier survey with drill sergeants. Overall, 50.9% of the respondents indicated that they disagreed with the statement that attrition is "...no longer considered a significant problem". The response was strongest from the leadership (71.4%) and more experienced instructors (53.2% and 60.0%) than with the new instructors (45.3%).

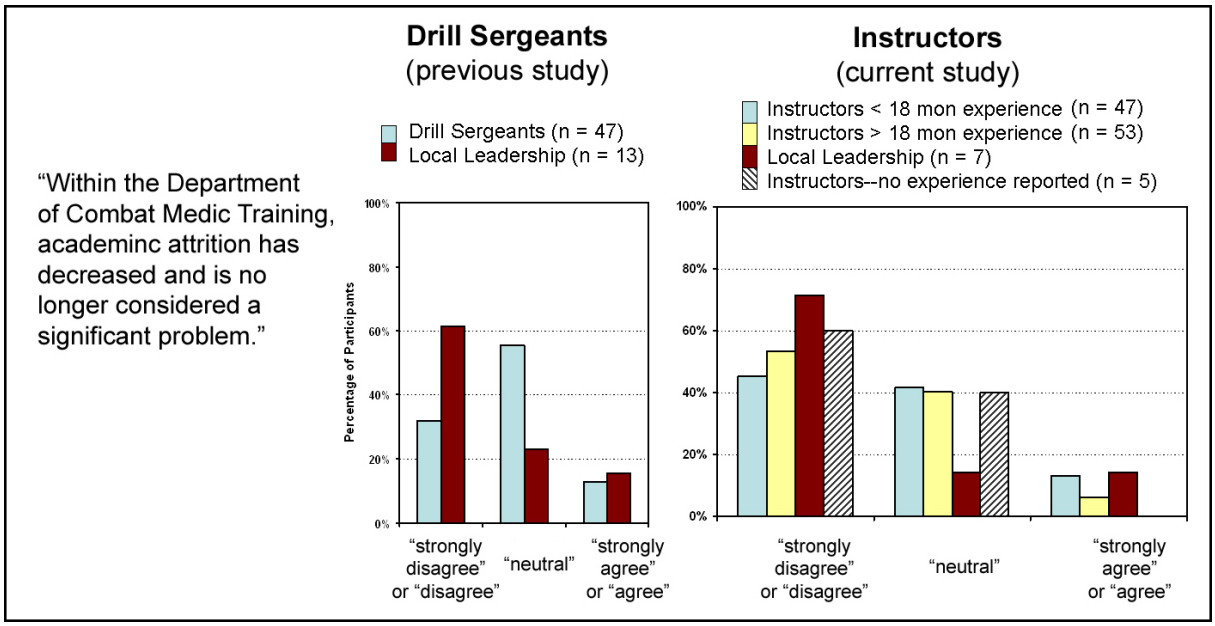

Figure 3. Perception of academic attrition within DCMT.

3.2.3 Ability to Change Attrition

The final perception statement addresses whether there was a general feeling that "little could be done to change" attrition. As shown in figure 4, the instructors were more strongly opposed to this statement than were the drill sergeants in the initial survey. The "new" and "seasoned" instructors groups expressed the same level of disagreement (57.7% and 63.0%, respectively) and four of the five instructors who did not report their years of experience disagreed with this statement. The level of agreement that little can be done to change attrition was consistently 20%.

The leadership was less certain about this question with only one of the seven leaders agreeing and the remainder split evenly between disagreement and remaining neutral. Overall, the instructors expressed an even stronger appreciation that academic attrition is a problem than did the drill instructors. In addition, this question indicates that the instructors are more positive that the attrition situation can be altered. The next set of statements addresses consideration of influence attrition.

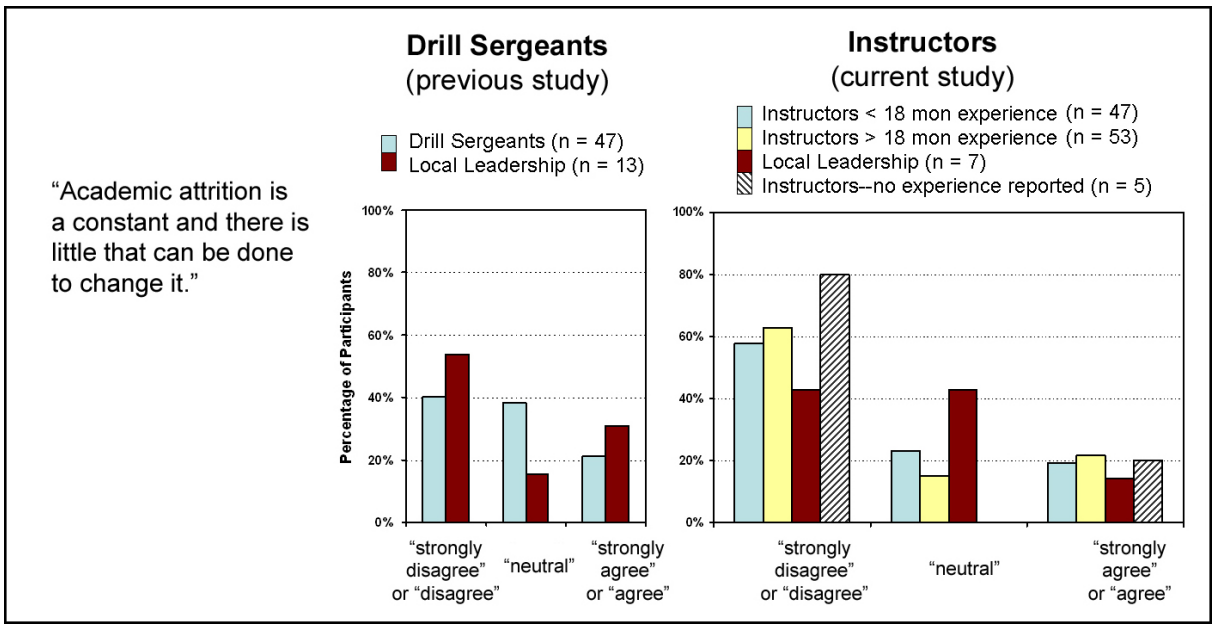

Figure 4. Ability to change attrition.

3.3 Results: Influence

Another key area to be documented is the degree to which the participants believe that academic attrition can be influenced. These items are structured to obtain data about whether the participants feel they can influence attrition as well as whether they believe it can be influenced in a general sense.

3.3.1 General Influence

Three of the statements in the survey were included to document the extent to which the participants believe various groups can influence academic attrition. Figure 5 presents these results for both studies for comparison. In the earlier study, the drill sergeants expressed 80% certainty that the other two groups ("instructors" and "leadership") could influence attrition but less confidence that their own group could exert influence.

The current study exhibits the same trend, with the instructors expressing 80% confidence that the "drill sergeants" and "leadership" can influence attrition, and a bit less certainty about their own ability to exert influence in this area. Two additional trends are of note with this data set. First, this is one area where the small group of instructors who concealed their experience level provided responses that differ from the other instructor groups. Although the majority of the instructors expressed confidence that they could influence attrition (75.5% and 72.3%, respectively), only one of the five instructors in this group agreed that instructors had influence. The second trend is that the local leadership was not as certain about the ability for instructors to influence attrition, with only 57% in agreement and the remaining 43% remaining "neutral". These results are consistent across both, documenting the belief that academic attrition can be influenced by all three groups.

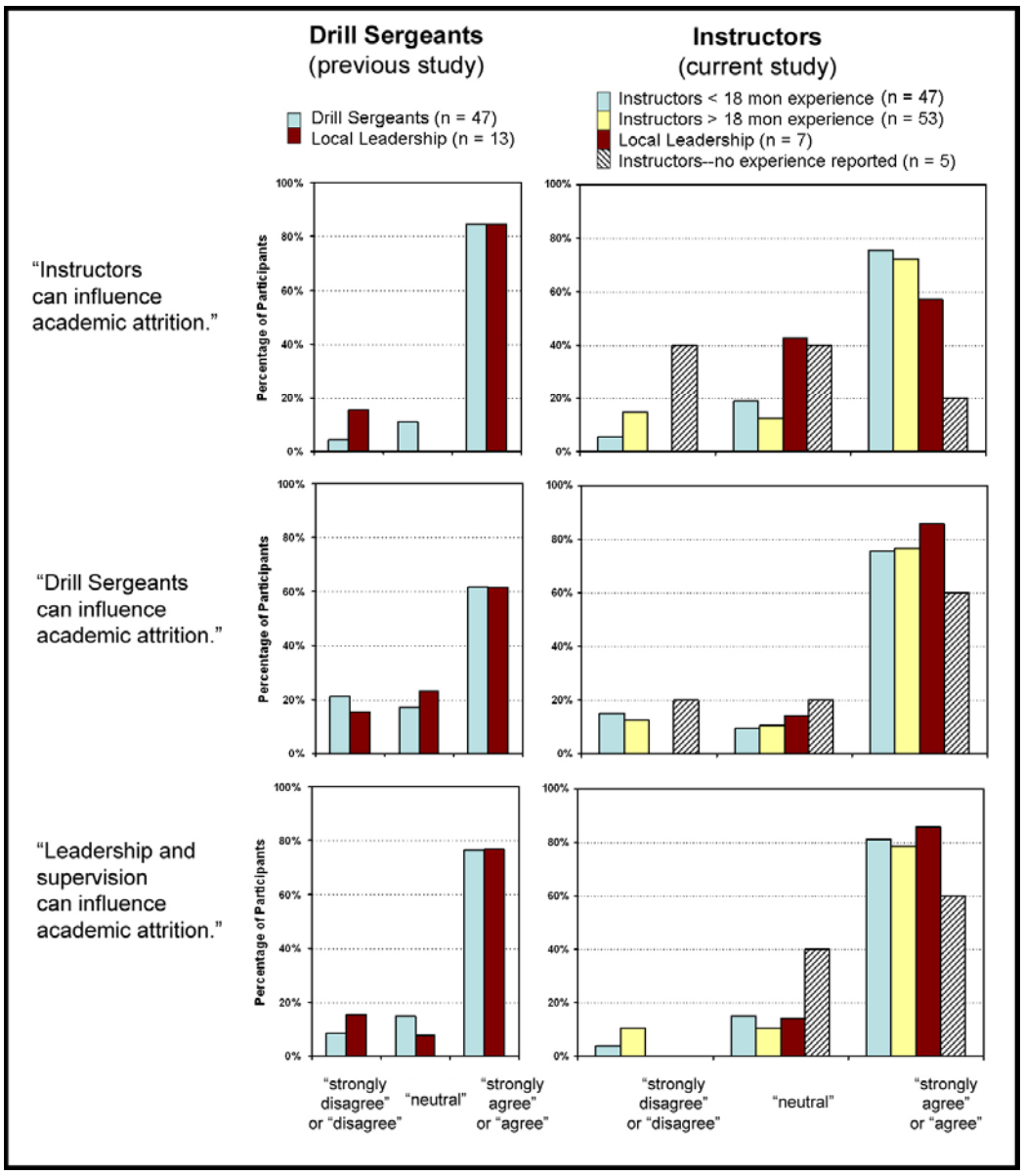

Figure 5. Ability to influence attrition.

3.3.2 Individual Influence

To balance the input, the participants were asked the similar questions in the first person to see how they rate their own ability to influence attrition. Figure 6 presents these data from both studies. The drill sergeants and the instructors expressed high confidence in their ability to **teach** the Soldiers (overall averages of 67.4% and 67%, respectively). However, overall, the instructor group expressed less confidence (58%) in their ability to **manage** the Soldiers. As can be expected, the most experienced instructors reported a higher degree of confidence (70%) in their ability to **manage** the Soldiers.

3.4 Results: Content

The survey to this point has been constructed to document whether the users (i.e., instructors, drill sergeants, and local leadership) perceive that attrition is a problem and their belief that they can influence attrition. That information is needed to validate the initial system requirement definition for the tool development. The next series of items included in the survey is to document the users' insight into what they perceive would be useful information. This will provide the initial concepts of users for quantitative information display. These questions begin with addressing whether the respondents perceived an overall need for additional information.

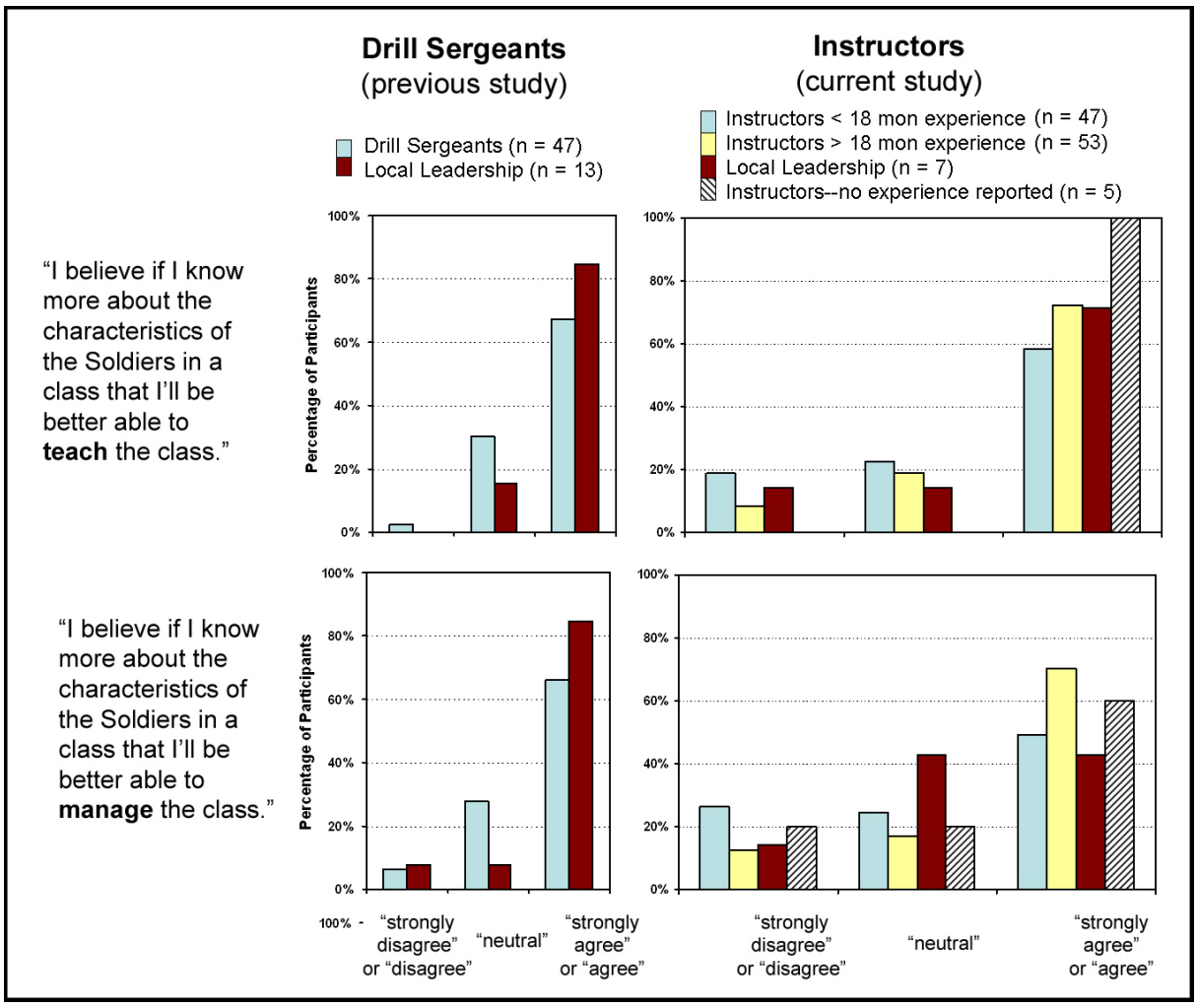

Figure 6. Individual influence on attrition.

3.4.1 Overall Need

To address the question of overall need, respondents were asked whether they agreed that current procedures provide sufficient information about each class for them to know how to minimize academic attrition. Results indicate (see figure 7) that less than half of the drill sergeants in the previous study and the instructors in the current study "agreed" that no additional information is

needed (48.3% and 46.8%, respectively). Of note in the current study is that the new instructors reported a higher level of confidence (54.7%) that current procedures were sufficient and the local leadership tended to be neutral (57.1%). In this question, the small group of instructors who only partially identified themselves was in strong disagreement (four of the five) that current procedures were sufficient. These results support the general basis upon which the AC^{2}T has been defined.

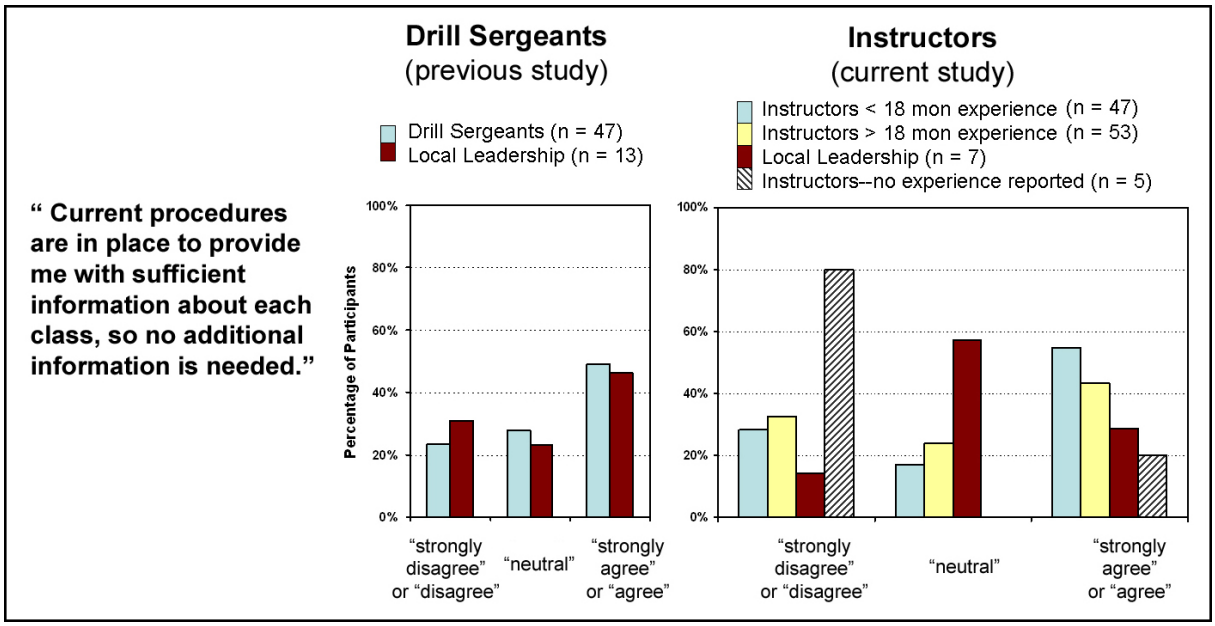

Figure 7. Overall need.

3.4.2 Topic Areas

This survey provided an opportunity for the intended users of the AC^{2}T to indicate the information that they felt would be most beneficial for them. Table 2 presents the distribution of responses for this survey of instructors. In the previous study, three items (prior medical training, primary language, and highest level of education) were rated by more than 50% of the drill sergeants as either "extremely useful" or "very useful" information. Figure 8 combines the results from the previous data with the subcategories within this current study. These data reveal consistency within the top six topics that the users feel could be beneficial if they were provided within the AC^{2}T.

Table 2. Preferred topics to be included in AC^2T, as judged by instructors (current study).

Distribution of Participants Responses (n = 113)	Yes, this data would be ...			No thanks, ...	
	extremely useful (percent)	very useful (percent)	somewhat useful (percent)	Useful, but I can already get it (percent)	Not useful; I would not use this information (percent)
Prior medical training	25.2	36.0	22.5	9.0	7.2
Primary language	20.7	21.6	19.8	18.0	19.8
Highest level of education	13.5	30.6	29.7	9.9	16.2
Prior military service	20.7	27.0	24.3	13.5	14.4
Self rating of study skills	10.9	28.2	30.9	10.9	19.1
Branch of Service	6.4	11.8	21.8	27.3	32.7
Age	8.1	24.3	23.4	19.8	24.3
Prior science grades	6.3	10.8	36.9	7.2	36.7
Current marital status	4.5	8.2	23.6	9.1	54.5
Number of children	6.3	8.1	24.3	10.8	50.5
Gender	1.8	10.8	17.1	27.0	43.2
Race	0.9	5.4	17.1	18.0	58.6
Height and weight	0.9	2.7	17.1	11.7	67.6

3.5 Results: Format

The final area to be addressed in the survey is to obtain feedback about the strawman display format with representative data. When the supervisors look at the overall picture of their company, how should the information be displayed (in numerical form, graphical form, with suggestions for types of intervention groups or should that decision be totally left to the unit [and will they understand enough to independently make those decisions without guidance])?

3.5.1 Ease of Interpretation

A series of three sample formats was presented to the participants along with a series of questions to evaluate the format. A key question addressed the ease with which participants were able to interpret the display format for all three formats. The participants were asked to rate how easy it was for them to understand the three different data displays. Figure 9 presents the sample data displays with the level of agreement expressed in the previous drill sergeant study and the four levels within this current instructor study. This study replicates the results from the previous study with the majority of the participants rating the multi-dimensional histogram (example 1) as easy to understand. In addition, the thermometer scale (example 2) and the single histogram (example 3) were both rated at approximately 50%. Thus, all three formats were sufficiently easy for the participants to understand.

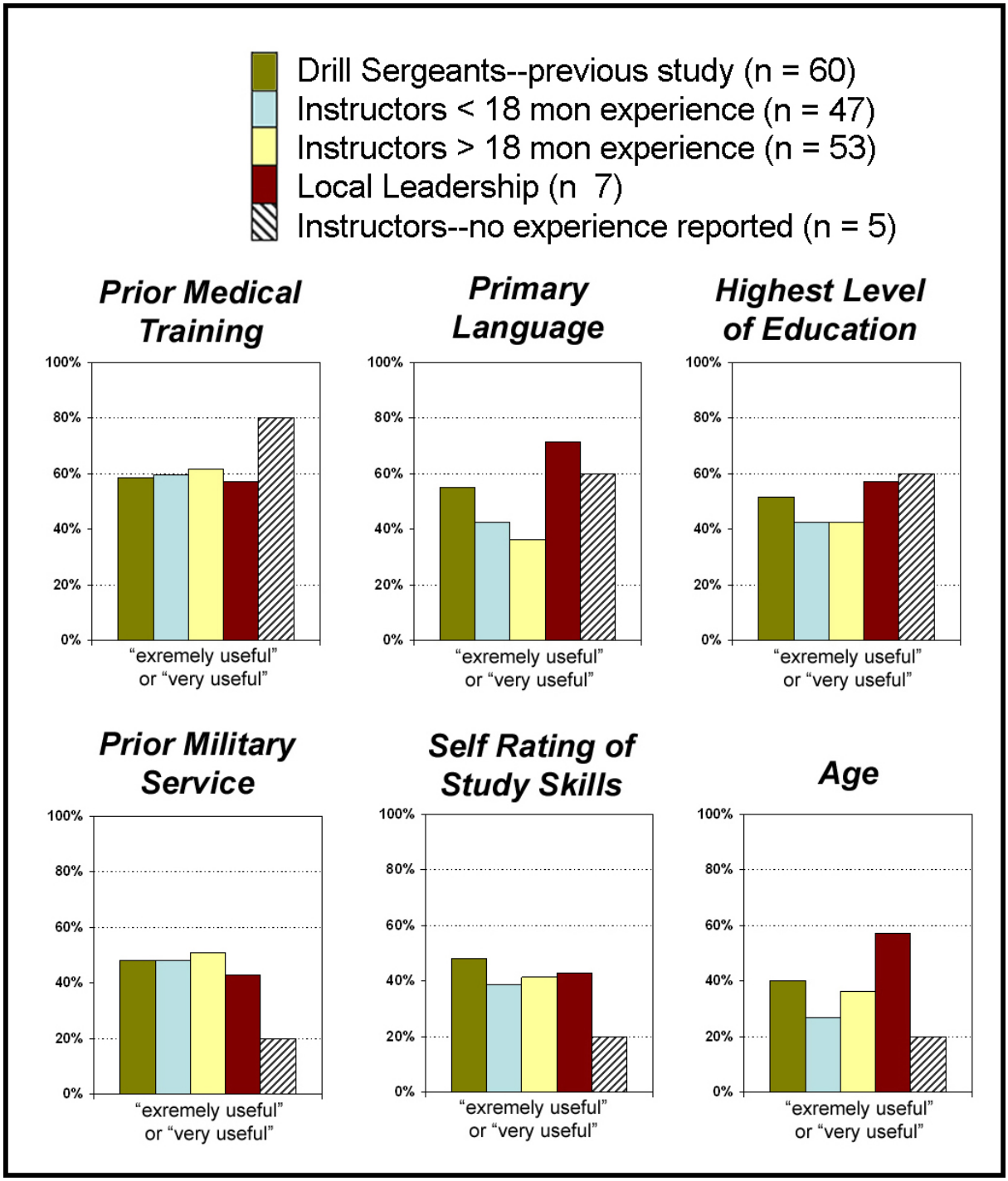

Figure 8. Distribution of responses for items to be included in the tool.

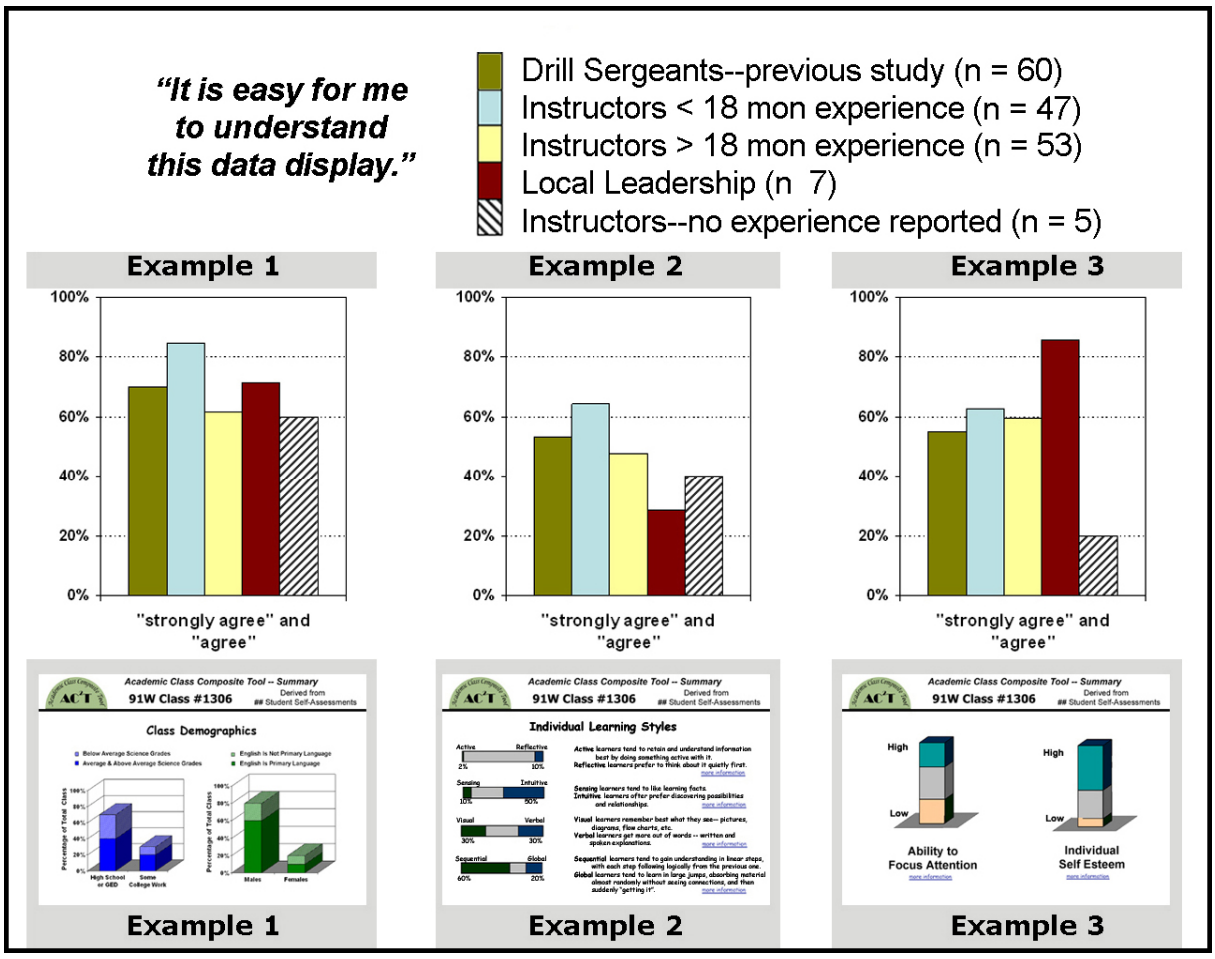

Figure 9. First format comparison.

3.5.2 Confusion Level

The second format comparison involved the same three examples and the participants were asked to record their level of agreement with a negative statement that the format example was "...confusing at best". As seen in figure 10, there is relative consistency across the five groups (recalling that the last two groups include small sample sizes). Approximately 40% of the drill sergeants and instructors did not find the data display confusing, i.e., they "disagreed" with the negative statement. The average agreement ratings, i.e., "strongly agree" plus "agree" were low: 21.6%, 28.6%, and 21.6% for Examples 1, 2, and 3, respectively. Thus, there is not a significant difference between the sample formats.

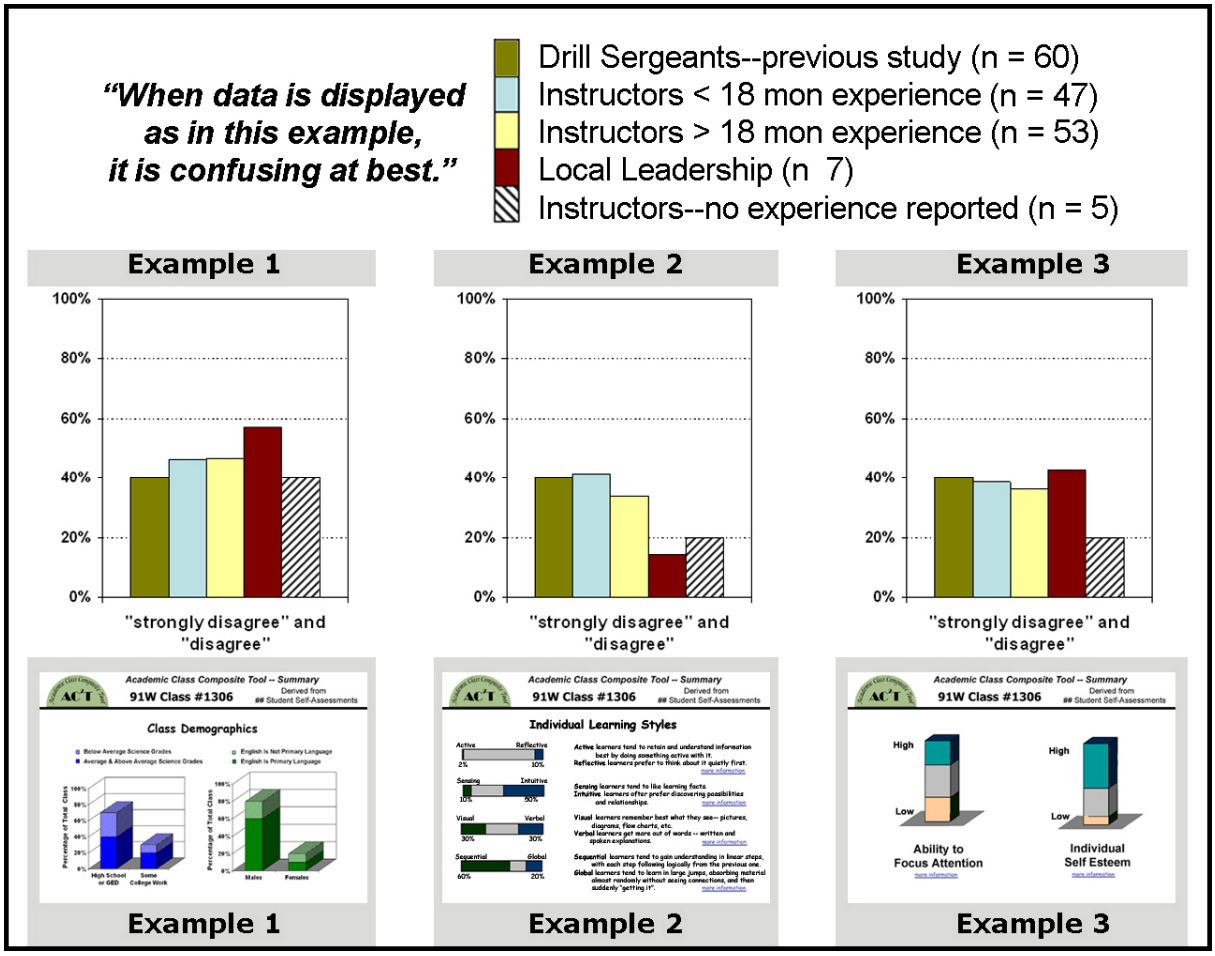

Figure 10. Second format comparison.

3.5.3 Preference Rating

The final question presented the participant with four displays, each using the same data but with a different formats (see figure 11). Participants from both studies rated (b), the basic data chart as being the ***most*** informative format, and (d), the pie chart, as the second best format. The format rated as the ***least*** informative was (a) the single histogram, and (c), the thermometer scale, was a close second in the ***least*** informative category. These results are consistent and will provide reliable guidance for the AC^2T.

Of these four displays of the same information, which format is the *MOST* informative?

	(a)	(b)	(c)	(d)
Drill Sergeants (n = 60)	13.6%	**54.5%**	11.4%	20.5%
Instructors <18mon (n = 47)	10.8%	**75.7%**	2.7%	10.8%
Instructors >18 mon (n = 53)	0.0%	**74.3%**	5.7%	20.0%
Local Leadership (n = 7)	20.0%	**80.0%**	0.0%	0.0%
Instructors--others (n = 5)	0.0%	**100.0%**	0.0%	0.0%

Of these four displays of the same information, which format is the *LEAST* informative?

	(a)	(b)	(c)	(d)
Drill Sergeants (n = 60)	21.7%	21.7%	**45.7%**	10.9%
Instructors <18mon (n = 47)	**51.6%**	9.7%	**32.3%**	6.5%
Instructors >18 mon (n = 53)	**48.3%**	6.9%	**41.4%**	3.4%
Local Leadership (n = 7)	**50.0%**	25.0%	25.0%	0.0%
Instructors--others (n = 5)	**50.0%**	50.0%	0.0%	0.0%

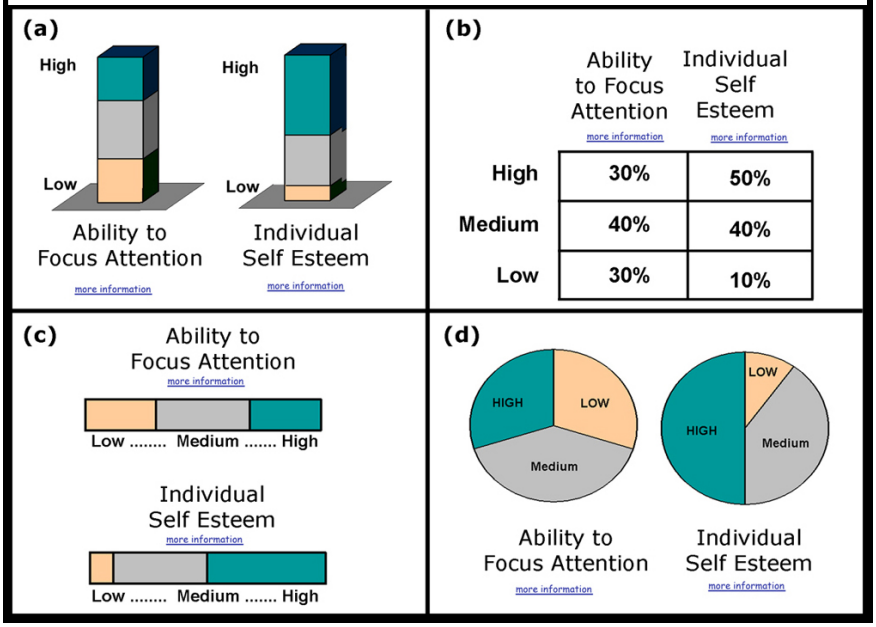

Figure 11. Format preference rating.

4. Summary and Conclusions

This report replicates results reported in the previous report (author, date). The first study documented the Level One User Feedback survey from the initial development of the AC^{2}T, a companion to the PASS tool for use by the individual Soldiers. The initial report included survey data from 60 drill sergeants and local leaders. This validation study administered the same survey to 113 academic instructors and local leaders. These survey results will be combined with the results of the predictive study under way to identify predictive factors for Soldier's academic success to contribute to the development of the PASS tool. The overall objective is to provide incoming Soldiers with individual strategies that they can employ to enhance their academic success. In addition, the instructors and leadership will be provided a composite profile of the full class.

4.1 Summary

The results from this instructor study have been evaluated with the previous drill sergeant study to obtain the most comprehensive profile of the intended users for the AC^{2}T. In all areas, there was a high degree of agreement between the early responses from the drill sergeants and the current survey of the academic instructors. All the results provided a comparison between the two data sets. Key questions addressed in this User Feedback Survey are

- Does the specified purpose for the tool address the problem? Survey responses from both reports support the assertion that academic attrition continues to be a problem within the DCMT and that current procedures do not provide sufficient data to influence this trend. Thus, there is a need for an effective tool.
- Are the intended users defined correctly? The original survey provided data from the drill sergeants and local leadership who work directly with the AIT Soldiers and could conceivably impact the attrition levels. This current survey replicates the earlier study with the academic instructors and provided consistent results.
- Do the intended users support the need for this tool development? Yes, these data support the need for the development of the AC^{2}T and agree with the results from the earlier survey. Although instructors, drill sergeants, and local leadership show confidence in their ability to influence change with more than a 60% "agree" or "strongly agree" response, only 40% feel that current procedures are in place to provide them with the information that they need to allow them to influence the academic attrition rate.
- Are the data sources appropriate and available? The tool content question identified the key areas that these respondents believed influence attrition and these data are being included within the AC^{2}T. The best source for these data will be identified in a parallel

regression analysis that is under way to identify predictive performance characteristics and the appropriate source material for teaching and learning strategies for success.

- Have data security issues been addressed? Data security issues are at the top of the requirements list. Although the data presented in AC^2T will be composite class data only, they will be derived from the individual data obtained when Soldiers use the PASS tool to obtain their own individualized academic strategies that they can employ. Thus, it remains imperative that the final tool development protects access of the underlying data base.

4.2 Conclusion

The new survey data support the results from the first report. The first level design specifications for the AC^2T have been successfully completed and verified with user input. The path forward includes (a) obtaining key results from the parallel regression analysis to incorporate the key predictive variables, and (b) incorporating the results from this development effort into the Level Two version of AC^2T to support a more detailed evaluation of the specifications. In general, the project is on track toward the development of a useful tool to assist local leadership, supervisors, drill sergeants, and instructors in exerting a positive influence toward a reduction in the academic attrition rates within the 91W AIT program. The development process for successful tools in this project can be replicated across the U.S. Army for other challenging AIT programs experiencing high academic attrition rates.

5. References

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Appendix A. Leadership Survey

As you have just heard in the introductory briefing, we are developing the ***Personal Academic Strategies for Success*** (or PASS) tool for Soldiers. Upon arrival at 91W AIT, each Soldier will complete a brief questionnaire. Based upon their answers, PASS will provide the student with individual information that can impact their performance during AIT, such as, their learning style, problem solving skills, coping methods, study habits or ability to focus attention. In addition to their individual profile, PASS will provide each student with written documentation on Academic Strategies, based on their profile, which they can use to improve their performance.

As a companion to the PASS tool for students, we are developing the ***Academic Class Composite Tool*** (or AC^{2}T) for your use. For each incoming AIT class, AC^{2}T will provide a composite snapshot of the class based upon key factors, such as demographics, learning style, problem solving skills, etc. In addition, AC^{2}T will provide suggestions about management and/or instruction strategies that have been successfully employed in academic settings for students with similar characteristics. Additional references or reference sources can also be provided.

This Leadership Survey was created to give you an opportunity to influence the development of AC^{2}T from your perspective as an Instructors or Leaders of the 91W students. Your responses will help us in creating both tools. The goal in creating the PASS is provide a tool that will be beneficial to the student by providing appropriate academic strategies that they can use. The goal in creating the AC^{2}T is to provide a tool that is helpful to you in your capacity as a key leader of the AIT class. Therefore, AC^{2}T needs to display information in the way that you would like to see it, that is, in a way that is easy for you to use and to interpret.

Thank you for your candid responses and support with this effort.

Rank: Age:

Leadership Position: Gender:
(Instructor, DS, Commander, etc)

Assignment: □ DCMT □ 232nd

Experience in this position: ___yrs ___months

Please read each of these statements, and then indicate your level of agreement with the statement by checking the appropriate box from "strongly disagree" to "strongly agree".

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Attrition in the 91W program is a problem.	❑	❑	❑	❑	❑
2	Instructors can influence academic attrition.	❑	❑	❑	❑	❑
3	Current procedures are in place to provide me with sufficient information about each class, so no additional information is needed.	❑	❑	❑	❑	❑
4	Attrition for Academic reasons (Academic Attrition) in the 91W program is a problem.	❑	❑	❑	❑	❑
5	Drill Sergeants can influence academic attrition.	❑	❑	❑	❑	❑
6	Academic attrition is a constant and there is little that can be done to change it.	❑	❑	❑	❑	❑
7	Leadership and supervision can influence academic attrition.	❑	❑	❑	❑	❑
8	Within the Department for Combat Medic Training, academic attrition has decreased and is no longer considered a significant problem.	❑	❑	❑	❑	❑
9	I can impact Soldiers' learning by the way I **teach** them.	❑	❑	❑	❑	❑
10	I believe if I know more about the characteristics of the Soldiers in a class that I'll be better able to **teach** the class.	❑	❑	❑	❑	❑
11	I believe if I know more about the characteristics of the Soldiers in a class that I'll be better able to **manage** the class.	❑	❑	❑	❑	❑
12	I can impact Soldiers' learning by how I **interact** with them.	❑	❑	❑	❑	❑

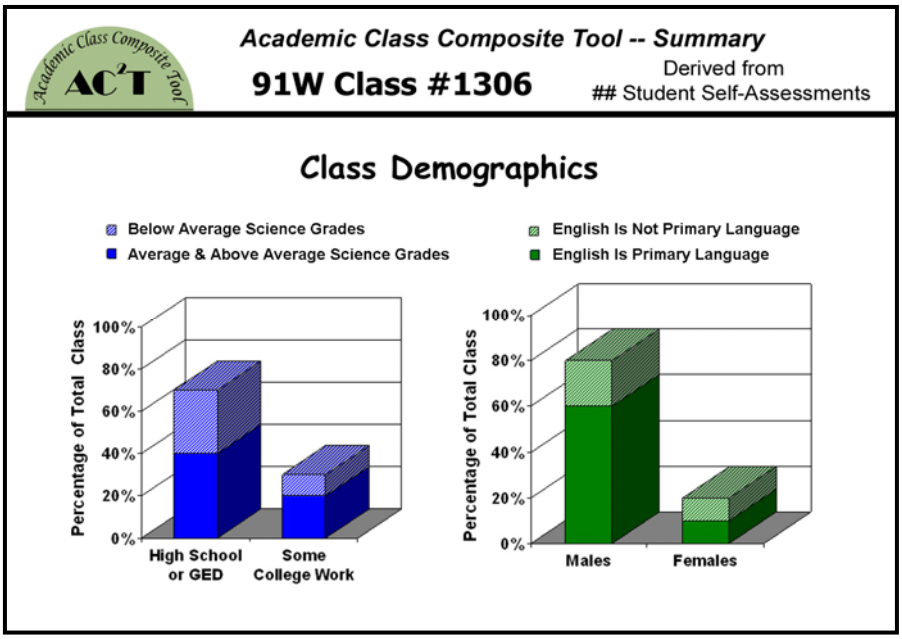
Class Demographic Snapshot

While you have access to class demographic data, AC^{2}T can provide additional data and include it in an overall class report, tabulated as class totals for the class or class averages. Which of the following information would be of benefit to you, if provided by AC^{2}T?

	Yes, this data would be ...			No thanks,	
	extremely useful	**very** useful	**somewhat** useful	**Useful**, but I can already get it	**Not useful**, I would not use this information
Branch of Service	❑	❑	❑	❑	❑
Age	❑	❑	❑	❑	❑
Race	❑	❑	❑	❑	❑
Gender	❑	❑	❑	❑	❑
Primary language	❑	❑	❑	❑	❑
Height and weight	❑	❑	❑	❑	❑
Current marital status	❑	❑	❑	❑	❑
Number of children	❑	❑	❑	❑	❑
Highest level of education	❑	❑	❑	❑	❑
Self rating of study skills	❑	❑	❑	❑	❑
Prior medical training	❑	❑	❑	❑	❑
Prior military service	❑	❑	❑	❑	❑
Prior science grades	❑	❑	❑	❑	❑

Example 1

AC^{2}T can also provide cross tabulation of data based upon information reported by the students. For example, the total composition of the class in terms of prior education, science grades, gender, and English language skills provides a global Snapshot of the Class. Please answer the following questions, based on the idea of cross tabulation and the example provided.

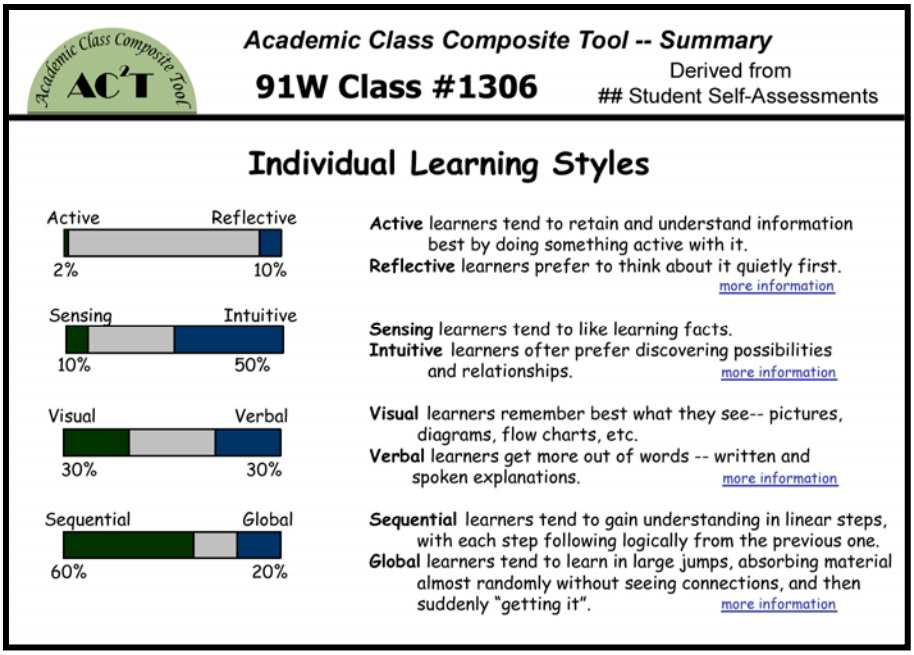


Simulated Data Used For Illustration Purposes

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	It is easy for me to understand this data display.	❑	❑	❑	❑	❑
2	I believe that it will be helpful to have this type of combination "snapshot" of a class.	❑	❑	❑	❑	❑
3	The layout of this data is straightforward, clear, and will provide me with valuable information.	❑	❑	❑	❑	❑
4	I would find it useful to have this level of detail about an AIT class.	❑	❑	❑	❑	❑
5	In my opinion, when data is displayed as in this example, it is confusing at best.	❑	❑	❑	❑	❑

Example 2

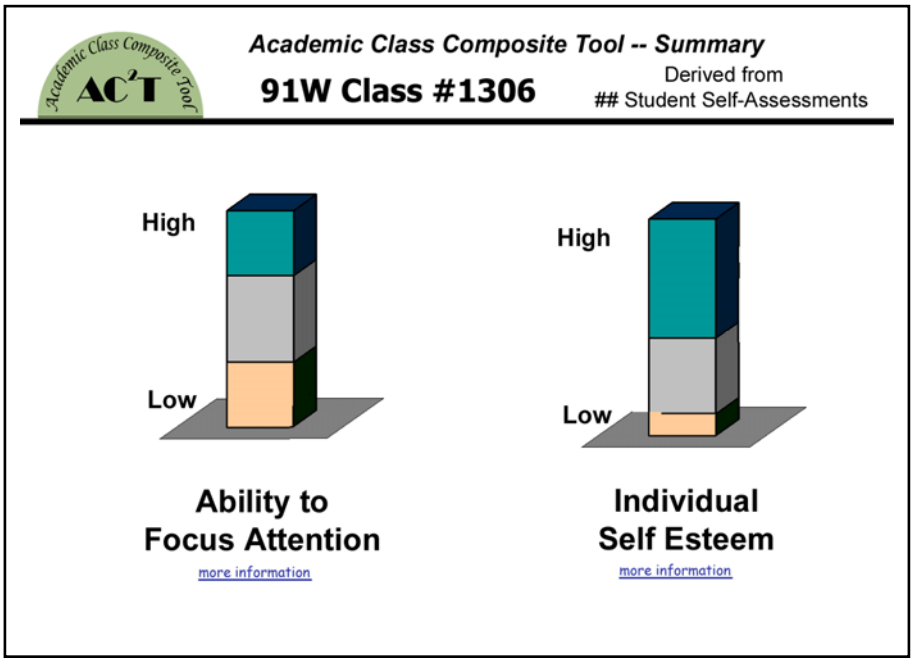
While class demographic data is available from a number of sources, AC^{2}T can provide additional information about the entire AIT class. For example, knowing the strong trends in Learning Styles of the class can provide insight on advantageous teaching techniques. For example:



		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	It is easy for me to understand this data display.	❑	❑	❑	❑	❑
2	I would change how I **teach**, based on knowing about the Learning Styles of my students.	❑	❑	❑	❑	❑
3	Knowing the Learning Styles of my students, I would change how I **interact** with them.	❑	❑	❑	❑	❑
4	This information will help **instructors** know how to "reach" students so they learn better.	❑	❑	❑	❑	❑
5	This information will help **supervisors** (Drill Sergeants, Commanders, administrators) know how to "reach" students so they learn better.	❑	❑	❑	❑	❑
6	In my opinion, when data is displayed as in this example, it is confusing at best.	❑	❑	❑	❑	❑

Example 3

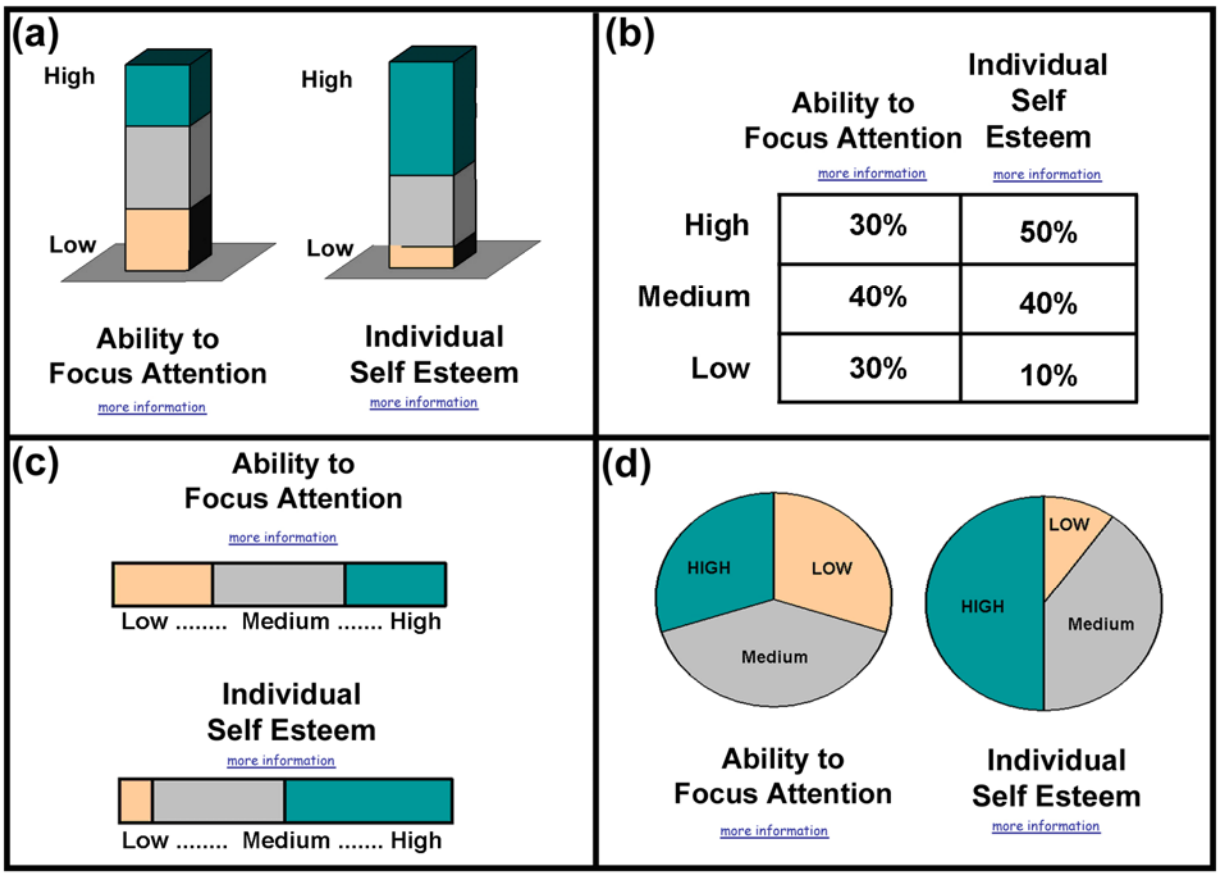
Once the Class Composite is compiled, the overall tendency of the class toward items such as self-esteem and ability to focus attention can be included.



		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	It is easy for me to understand this data display.	❑	❑	❑	❑	❑
2	I would change the way I **teach**, based on knowing this type of information about the class.	❑	❑	❑	❑	❑
3	I would change the way I **supervise** and **interact with students**, based on knowing this type of information about the students in my class.	❑	❑	❑	❑	❑
4	This type of information will help **instructors** know how to "reach" students so they learn better.	❑	❑	❑	❑	❑
5	This information will help **supervisors** (Drill Sergeants, Commanders, administrators) know how to "reach" students so they learn better.	❑	❑	❑	❑	❑
6	In my opinion, when data is displayed as in this example, it is confusing at best.	❑	❑	❑	❑	❑

Example 4

As you know, the same information can be presented in a number of different formats. Take these four displays of the same data.



1. Of these four displays of the same information, which format is the **MOST** informative? _____
2. Which format do you find the **LEAST** informative? _____
3. Do you have any suggestions of how to improve the data format? _____

_____

_____

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