

ASSESSING STUDENTS' AFFECT RELATED TO ASSESSMENT FOR LEARNING

AN INTRODUCTION FOR TEACHERS*

Rick Stiggins, ETS Assessment Training Institute

W. James Popham, UCLA

** This document is under development by the authors and is released in to the public domain for research purposes. It will be published and distributed thru many channels and may be reproduced for use by teachers in their classrooms. In fact, the authors encourage classroom experimentation with the ideas and instruments provided herein in the interest of deepening our understanding of how to use classroom assessment to maximize student learning.*

Please see the instructions on page 5 (Concluding Request) for how to share results of that experimentation with the authors.

Assessment for learning (AFL) represents a way for teachers and their students to employ the assessment process and its results instructionally in their classrooms. Ample research evidence indicates that AFL, if properly implemented, will improve students' mastery of what's being taught in class and, thus, is apt to enhance performance on external achievement tests dealing with that content (Black and Wiliam, 1998a, 1998b). However, because AFL is, in many ways, a particularly strong student-focused approach to instruction, an approach in which students become personally involved in monitoring and adjusting how they are attempting to learn, this achievement-enhancing assessment strategy is almost certain to also have an impact on students' affect, that is, their personal perceptions and predispositions about their learning. Indeed, when employed properly, AFL uses those perceptions and predispositions to drive learning productively forward.

One of the cornerstones of AFL is that both teachers and students must maintain an ongoing picture of students' achievement progress based on a variety of formal and informal assessment tactics. Frequent assessments provide the kind of continuous feedback that teachers need to determine what comes next in the student's learning, and that students need to learn how to do better the next time. Frequent feedback, therefore, contributes to the student's success which feeds a growing sense of confidence. Yet, teachers who currently implement AFL have no systematic way of discerning the affective impact of this approach on their students. In an effort to provide teachers with tools for tracking students' affect related to AFL, we have developed three age-appropriate affective inventories for use by teachers who wish to discern the impact of their instruction on those affective dispositions most likely to be influenced by an AFL approach. All three inventories (grades 3-6, 7-9, and 10-12) are appended to this introduction.

We understand that concern for student affect certainly is relevant in the primary grades too. However, inquiries into the matters addressed herein are best handled through direct personal interaction between teachers and their students. Inventories such as those presented in the Appendix are used most productively beginning in early elementary grades.

Two Affective Foci

Two affective variables are especially likely to be influenced by teachers who employ AFL in their classes: academic efficacy and eagerness to learn.

Academic efficacy. Academic efficacy refers to a student's perceived ability to succeed and the student's sense of control over her or his academic well being. If an AFL class is working the way it should, most students will receive instructional tasks that coincide well with their current achievement levels. As a consequence, those students are apt to be successful in learning what they are supposed to learn so that ongoing assessments will provide them with evidence of their success. Even more importantly, through the use of formatively-oriented assessments, initially unsuccessful students will be receiving guidance regarding how to adjust their learning tactics so that they will ultimately become successful.

Accordingly, if an AFL classroom is functioning appropriately, students' perceptions of their personal academic prowess should (1) remain high or (2) improve substantially if such perceptions begin at a low level. In other words, students' sense of academic efficacy should, therefore, remain strong or become stronger as time goes by. If this is not occurring, then a teacher might wish to consider implementing efficacy-enhancing instructional suggestions such as those offered on pages 4 and 5.

Eagerness to learn. A second affective variable associated with an AFL instructional approach is students' eagerness to learn. Clearly, teachers would like students not only to believe they are capable of learning (as represented by students' academic efficacy) but teachers would also like students to want to learn. Ideally, if AFL is working the way it is supposed to work, students' eagerness to learn will remain high or will increase over time. That's because AFL-taught students will be experiencing a series of successful learning experiences. Most human beings enjoy doing what they are good at doing. This is also true with students in school. When students are good at learning things, most of them will be inclined to want to learn more things.

As was the case with academic efficacy, if students are not becoming more eager to learn, then the teacher needs to consider suggestions aimed at increasing students' eagerness to learn such as those presented on pages 4 and 5.

Although there are surely other affective consequences that might emerge from the effective implementation of an AFL class, we believe the most significant are the two affective dimensions just described, namely, students' academic efficacy and their eagerness to learn. There should be a definite strengthening of both of these affective variables during an extended period of AFL instruction.

Affective Assessment

Assessment of students' affective variables such as these two presents unique challenges. For example, to assess affect productively, teachers must elicit honest responses from students. Teachers want to know how students really feel. But in an environment in which students have learned to give teachers the "right" answers (that is, the answers students believe the teacher wants to hear) there is a danger that students will tend to supply socially desirable responses. Obviously, such responses can be misleading. To prevent this, affective inventories such as those offered in the appendix must be administered under conditions of absolute anonymity. Not only do students make all responses to an affective inventory anonymously, but those students must really believe their anonymous responses are untraceable. Only then can teachers hope for honest expressions of students' sentiments.

This requirement for anonymity carries with it important implications for how the inventories can be used. Unlike the assessment of students' cognitive achievement, in which teachers arrive at an assessment-based inference about each student's level of achievement, affective assessment permits teachers to make only group-based inferences about students' affect. Yet, by calculating an average per-student response from an entire class of students, a sufficiently accurate group-focused inference can be made to guide the teacher of that class. Some students, of course, even though providing only anonymous responses, will still supply excessively positive responses because they believe their teacher will want them to answer in that way. Yet, there are also some students who will supply excessively negative responses because — shrouded by a

cloak of anonymity — they believe this is an opportunity to "get even" with the teacher. Thus, the average of all students' responses to an anonymous self-report inventory typically supplies a sufficiently accurate estimate (for a teacher's decision-making) regarding the affective status of an entire class.

The Inventories

Each of the grade-range inventories contains eight statements with which students are asked to agree or disagree. Two of the statements in each inventory focus on a student's academic efficacy. The two statements below (taken from the grade 7-9 inventory) are intended to elicit students' perceptions of their own academic efficacy:

- When I'm asked to learn something new in this class, even if it's difficult, I know I can learn it. (Item 2)
- Even with help and plenty of time, I'm going to have difficulty learning new things in this class. (Item 7)

Two more statements from the grade 7-9 inventory deal with a student's eagerness to learn:

- I'm really excited about learning new things in this class. (Item 4)
- Most of the time I don't look forward to learning new things in this class. (Item 6)

In each of these two pairs of statements, one statement is phrased positively and one statement is phrased negatively. Thus, for example, students who are eager to learn would tend to agree with the positively phrased statement, but disagree with the negatively phrased statement. (Considerable experience in the construction of these sorts of self-report inventories suggests that this sort of positive-and-negative phrasing yields the most accurate indication of students' true sentiments.)

In addition, each of the inventories includes two items dealing with a key feature of an AFL classroom: clarity of learning targets:

- I usually have a pretty good idea about what I am expected to learn in this class. (Item 1)
- In this class I often don't have a clear idea about what I am supposed to be learning. (Item 5)

Another pair of items focus on a second important attribute of an AFL classroom, namely, the degree to which teachers provide their students with progress-monitoring information:

- Typically, I don't have a very good idea if I am making enough progress in this class. (Item 3)
- In this class, I get enough information to keep accurate track of my own achievement. (Item 8)

These four statements do not focus directly on students' affect per se. Rather, they center on the students' perceptions about practices carried out by their teacher. These two pairs of

statements are included because most teachers who are attempting to implement an AFL class will wish to know the degree to which their students believe these two focal aspects of AFL are, from the students' perspective, taking place.

Suggested Uses of the Inventories

These affective inventories are intended exclusively for teachers to use as instructionally relevant evidence-eliciting tools in their classrooms, and only if a teacher individually decides to do so. The inventories are not designed for evaluative purposes at either the teacher-level or school-level. Indeed, as will be suggested later, the inventories are specifically constructed so they can be modified to mesh better with a particular instructional context and a given teacher's interests in students' affect.

If a teacher wishes to collect information regarding shifts in students' affect during the course of a school year, and want to submit such affective data for personnel-evaluation purposes, this would clearly be the teacher's choice. The purpose of the three affective inventories provided in the Appendix is to assist teachers in determining whether classroom implementation of AFL is having the desired impact on students' affect.

One relatively simple and straightforward use of an affective inventory in an AFL class is for the teacher to administer it on a pre-instruction and post-instruction basis, for instance, at the beginning and end of an instructional unit, a grading period, semester, or school year, depending on the context. A contrast between such pre-instruction and post-instruction results will allow a teacher to determine if any meaningful improvements have taken place in, for example, students' academic efficacy.

However, because AFL teachers are typically attentive to the ongoing nature of instruction in their classes, this suggests that a more fruitful use of these affective inventories would involve their administration several times during instruction. By so doing, of course, teachers would then have time to make adjustments in what they were doing based on class-focused inferences about students' affect and students' reactions to what is taking place in class (with respect to the two statements about clarity of expectations and the two statements about progress-monitoring information). Care should be taken not to administer these inventories so frequently over a short period of time that students become jaded about excessive use of the inventories.

Still another approach might be to use the inventories strategically. That is, if a teacher senses that things aren't going well and students' reactions to instructional activities are not sufficiently positive, responses to an inventory might provide some insight into why this is the case. Results might point to AFL actions teachers might take to get students back on track.

Modifying the Inventories

These public-domain inventories are provided for teachers to use without restriction. There is nothing sacrosanct about the nature of the items in the inventories in the Appendix, so teachers should feel free not only to modify the current items, but also to add or delete items. For example, if an elementary teacher happened to be particularly interested in students' interests in reading or, perhaps, in social studies, then statements such as the following might be added to the items: "Lots of the time I would rather read than watch TV." or "I really like it when our class deals with social studies." (Ideally, items should be added in pairs so that one statement is phrased positively and another statement is phrased negatively.) Because these inventories are intended to help an individual teacher do a good instructional job, teachers should modify the instruments as they wish.

Directions for Administration

During our pilot-testing of early versions of these inventories during their development, both teachers and students suggested that the Directions (to students) on the inventories themselves should be extremely brief, and that the teacher should give the bulk of the directions orally. Therefore, as you will note on the inventories, the directions to the student are quite abbreviated. It is suggested that a teacher read (aloud) something along these lines to students prior to each administration of one of these affective inventories:

Today I want you to complete a brief inventory dealing with this class – and only this class. You will complete the inventory's items anonymously, so just enter your responses – don't put your name on the inventory or write anything else. There will be no way to tell how you responded, so please answer as honestly as you can. I will be using the average responses of the entire class to help me do a good job of teaching. That is the only reason I am asking you to fill out this inventory.

There is a sample of how you are to respond given at the top of the inventory. As you can see, you are to circle the response-letters for the items depending on how you personally feel about each statement.

When you are finished, please place your completed inventory in the collection envelope that has been provided. Thank you for helping me with this.

If the teacher is administering an inventory on more than one occasion, there would be slight variations in this set of oral directions such as, "Today I need you to once more complete the brief, anonymous inventory that you took several months ago, etc."

If there is a more appropriate way for students to return their inventories, such as by depositing the completed inventories in a collection box provided for that purpose, this too would need to be noted. The idea of having the teacher supply oral directions for these inventories is that those

directions can be suitably tailored to the teacher's instructional situation.

Scoring the Inventories

Remember, results should be compiled for the class as a whole so as to identify patterns or, over time, trends in responses. One easy procedure is to determine the number of students who select each response to each item. This procedure may work best when the teacher is just doing a quick check to determine the current state of affairs in the class. Then make a simple bar graph for each item. How do the students' responses distribute themselves along the "agreement-disagreement" response scale? The patterns will usually reveal students' sentiments. .

But if the teacher seeks to track changes in students' affect over time, frequency counts and bar graphs can be clumsy. It is typically better in that case to calculate average ratings so the teacher can detect changes in students' scores over time. To

convert the frequency counts to average scores, simply multiply the score (1 to 5) by its frequency, add the resulting calculations across scores and divide by the total number of students responding. This should be done for each individual item separately.

To compute an academic efficacy score based on the combined positively and negatively stated items, remember that scores on a positively stated item go from 1 for a strongly-disagree response to a 5 for a strongly agree response. But on a negatively phrased item, the scale is reversed. The higher the score, the more "appropriate" is the response. Because there are two items per variable, a per-variable score can range from a low of two points to a high of ten points. Here is a graphic illustration of the score-generating process:

Item	Rating scale	Combined for each score
1	5 4 3 2 1	Clarity of Learning Targets
2	5 4 3 2 1	
3	1 2 3 4 5	Eagerness to Learn
4	5 4 3 2 1	
5	1 2 3 4 5	Academic Efficacy
6	1 2 3 4 5	
7	1 2 3 4 5	Progress Monitoring Information
8	5 4 3 2 1	

Adjusting Instruction Based on Results

We begin this section with two cautions. First, the strategies suggested form the foundation of an AFL classroom. The vast majority of teachers have not been given the opportunity to learn how to create such environments. The creation of an AFL requires a fundamental understanding of several principles that we can merely highlight herein. Those interested in further study of the principles, strategies, and tactics outlined below should consult one or more of the numerous articles and books now being published regarding AFL.

Second, we assume that the teacher's (inventory-user's) goal is to help the largest possible proportion of their students meet pre-specified academic achievement standards. That is, the mission is to maximize student success. The AFL suggestions offered below can have that impact. If the teacher's mission is something other, such as to produce a dependable rank order of students at the end of instruction, the suggestions offered may be counterproductive.

If an inventory's results suggest that students' sense of academic efficacy is lower than desired on the basis of a single

administration of a grade-appropriate inventory, or is not tending upward on repeated measures over time, then instructional actions need to help students gain a sense of control over their learning success. This requires that classroom practices get students on academic "winning streaks" and keep them there. Six specific strategies applied in this order can help with this:

1. *Provide learners with student-friendly versions of the achievement targets from the very beginning of instruction.*

Learning accelerates when teachers describe what good work looks like using vocabulary that learners can understand. Students can hit any target that they can see and that holds still for them. With clear signposts before them, students can watch themselves progressing ever closer to success. This builds confidence. When this frame of reference is missing for them, students can lose their way and their ability to find the path to success. Obviously, this suggestion places a premium on teachers' having clear and appropriate achievement expectations, that is, the suggestion depends on teachers' knowing where they're going.

2. *Accompany those expectations with samples of student work that reveal to students, from the beginning of the learning, what their work will look like as it improves.*

Those samples should cover the full range, including weak, mid-range, and high-quality work. Again, this allows learners to evaluate where they are at any time on the continuum of achievement in relation to where teachers want them to be. As students see the fruits of their efforts in learning results, academic efficacy grows.

3. *Provide students with continuous access to descriptive feedback, that is, with feedback showing them now to do better the next time.*

In effect, this suggestion gives students control in the form of the information needed to keep them moving along the learning progression relevant to the achievement target being pursued. Teachers should want their students to win early, win small, and win often. Winning streaks become trajectories that take on a life of their own. Confidence and optimism grow. And, of course, teachers must be sure that classroom assessments are of sufficient quality to provide teachers and their students with accurate information.

4. *Teach students to self-assess so they can begin to generate their own descriptive feedback.*

This suggestion requires that students learn to apply the very same performance criteria their teachers apply when evaluating students' work. By getting students to play a role in this process, teachers set students up to become partners in determining what comes next in their learning, that is, in setting goals and in defining success. This contributes to students' sense of control over their success.

5. *Help students learn to improve their work one key attribute of success at a time.*

By not overwhelming students with too many needed improvements, teachers can help their students succeed by taking baby steps and, continuously, building an internal sense of control over their success. Winning streaks feel good, and this builds confidence.

6. *Teach students to reflect on changes (improvements) in the quality of their work and why those improvements have happened.*

This suggestion represents the culmination of what is accomplished by applying Suggestions 1 to 5 above. By developing an understanding of the key attributes of good work as reflected in actual samples of that work, teachers give students the tools needed to see key changes in students' own work. By giving descriptive feedback, one key attribute at a

time, and helping students learn to generate their own feedback, teachers give students a mirror in which to see themselves climbing toward success. All of this puts students in touch with their own evolving academic capabilities. In effect, success becomes its own reward.

With the resulting sense that success is, in fact, within reach, students' academic efficacy and eagerness to learn will increase. But the foundational conditions are that students be in touch with the targets from the beginning of the learning, and that students have access to their own continuous record of assessment results so they navigate the path to success and watch themselves arriving there. It is surprising how effectively success builds eagerness for more success.

Concluding Request

The current version of these introductory remarks and the three affective inventories are being distributed on a limited basis with the hope that some educators may choose to employ them and, based on those experiences, relay suggestions to us regarding how to improve either the inventories themselves or the introduction to their use. If you have suggestions, please relay them to: rstiggins@ets.org or wpopham@ucla.edu.

References

- Black, P. and D. Wiliam (1998a). "Assessment and Classroom Learning," *Assessment in Education: Principles, Policy and Practice* 5(1): 7-73; also summarized in "Inside the Black Box: Raising Standards through Classroom Assessment," *Phil Delta Kappan*. 80(2), 139-148.

APPENDIX

These affective assessment inventories are focused on four key variables relevant to AFL classrooms. Although most of the items in these inventories have been pilot-tested with small samples of students, the inventories should be regarded as essentially early-version assessment tools. As noted often in these introductory remarks, teachers should adapt these assessment tools as they wish.

THE WAY I SEE SCHOOL

Inventory for Grades 3-6

Directions: Please indicate how you feel about each statement as follows:

SA=Strongly Agree A=Agree U=Uncertain D=Disagree SD=Strongly Disagree

For example, here is how you would respond if you agree with the statement at the left:

I like to watch TV.

SA A U D SD

When you complete the form, please place it in the large collection-envelope that's provided.

- | | | | | | |
|--|----|---|---|---|----|
| 1. I usually understand what I am supposed to learn. | SA | A | U | D | SD |
| 2. If I'm asked to learn new things, even if it's difficult, I know I can learn it. | SA | A | U | D | SD |
| 3. Typically, I don't know if I am making progress as fast as I should. | SA | A | U | D | SD |
| 4. I'm excited about learning new things in school. | SA | A | U | D | SD |
| 5. Very often, I'm not certain about what I supposed to be learning. | SA | A | U | D | SD |
| 6. Lots of the time, I don't look forward to learning new things in school. | SA | A | U | D | SD |
| 7. Even if I get lots of help and plenty of time, it is hard for me to learn new things. | SA | A | U | D | SD |
| 8. I get plenty of information to help me keep track of my own learning growth. | SA | A | U | D | SD |

Thank you for completing this form

THE WAY I SEE SCHOOL

Inventory for Grades 7-9

Directions: Please indicate how you feel about each statement below as follows:

SA = Strongly Agree A = Agree U = Uncertain D = Disagree SD = Strongly Disagree

For example, here is how you would respond if you agree with the statement at the left:

I like to watch TV.

SA



U

D

SD

When you complete the form, please place it in the large collection-envelope that's provided.

- | | | | | | |
|--|----|---|---|---|----|
| 1. I usually have a pretty good idea about what I am expected to learn in this class. | SA | A | U | D | SD |
| 2. When I'm asked to learn something new in this class, even if it's difficult, I know I can learn it. | SA | A | U | D | SD |
| 3. Typically, I don't have a very good idea if I am making enough progress in this class. | SA | A | U | D | SD |
| 4. I'm really excited about learning new things in this class. | SA | A | U | D | SD |
| 5. I often don't have a clear idea in this class about what I am supposed to be learning. | SA | A | U | D | SD |
| 6. Most of the time, I don't look forward to learning new things in this class. | SA | A | U | D | SD |
| 7. Even with help and plenty of time, I'm going to have difficulty learning new things in this class. | SA | A | U | D | SD |
| 8. In this class, I get enough information to keep track of my own learning achievement. | SA | A | U | D | SD |

Thank you for completing this form

THE WAY I SEE SCHOOL

Inventory for Grades 10-12

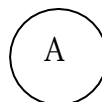
Directions: Please indicate how you feel about each statement below as follows:

SA=Strongly Agree A=Agree U=Uncertain D=Disagree SD=Strongly Disagree

For example, here is how you would respond if you agree with the statement at the left:

I like to watch TV.

SA



U

D

SD

When you complete the form, please place it in the large collection-envelope that's provided.

- | | | | | | |
|---|----|---|---|---|----|
| 1. On most days, I have a pretty good idea about what I am expected to learn in this class. | SA | A | U | D | SD |
| 2. If I'm asked to learn something brand new in this class, even if it's difficult, I know I can do so. | SA | A | U | D | SD |
| 3. I often don't have a good idea if I am achieving academically as fast as I should in this class. | SA | A | U | D | SD |
| 4. I'm almost always excited about learning genuinely new things in this class. | SA | A | U | D | SD |
| 5. More often than not, I don't have a good idea if I am progressing properly in this class. | SA | A | U | D | SD |
| 6. Most of the time, I actually don't look forward to learning new things in this class. | SA | A | U | D | SD |
| 7. Even with much help and plenty of time, I think I'll have trouble learning new things in this class. | SA | A | U | D | SD |
| 8. In this class, I get plenty of information so I can keep track of my own academic progress. | SA | A | U | D | SD |

Thank you for completing this form