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ABSTRACT

Building level staff evaluation strategies for the purpose of improving instruction are presented. First, the philosophies of formative and summative evaluation are described. Formative evaluation is a nonjudgmental process, and summative evaluation provides for judgment with performance improvement recommendations. Next, six anxiety-reducing steps are outlined: (1) have a preobservation conference stressing the improvement needed; (2) permit teachers to refuse unannounced class visits; (3) always find something positive to say; (4) offer specific suggestions on how to solve the problem; (5) ensure that the evaluation discussion extends beyond one minor point; and (6) be consistent with staff members so that everyone understands uniform evaluative criteria. The paper concludes by urging evaluators to make positive as well as negative remarks that are specific, plausible, and can be monitored. Appended is a staff evaluation packet. (SI)

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Staff Evaluation: Strategies for Continuous Instructional Improvement

Dr. William A. Rieck

*Delivered on February 25, 1989 at the Annual Convention of The National Association of Secondary School Principals Association held in New Orleans*

I suspect that before I start, we should establish some ground rules or parameters for this discussion session. I know you could fill a library with periodical articles about the evaluation process. Terms like 'clinical supervision', 'J-BTE', 'duties based evaluation', and even 'artistic evaluation' have been seen in the literature. The ASCD even produced an excellent volume entitled "Teacher Evaluation: Six Prescriptions for Success". The plans outlined in that book are in use but, for the vast majority of us living in the real world they may not apply, indeed many of the contemporary theories on evaluation may not apply simply because of the situation we are in.

I hypothesize that most of us are in school districts that use a rating sheet or a narrative format to evaluate teachers. Many districts require that the principal or assistant principals must do evaluation and some permit at least a part of the task to be delegated to department chairpersons.

So, what I will address today is for the practitioner. The practitioner who is working with a system that is currently in-place. The practitioner who wants to get the most out of the system and improve instruction in his or her building. If you are a member of the fortunate minority that has an elaborate system, stick around and when we get to discussion let us know what you are doing and how it is working.

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What we should accomplish today<sup>1</sup> is development of an understanding that any instrument can be used for the improvement of instruction and how to minimize anxiety while maximizing effectiveness in dealing with staff evaluation.

Modern literature is full of reasons for evaluation. Most authors state two but some, such as Richard Mannat in "Teacher Performance Evaluation: A Total Systems Approach", has indicated six reasons. I tend to simplify matters and maintain that there is only one reason for evaluation<sup>2</sup>, that being to improve the delivery of instruction within our schools. Although, I do admit, that one way of improving is , at times, to remove an ineffective or incompetent teacher. None the less if effective schools research is correct and strong instructional leadership from the principal is a pre-requisite to a truly effective school, then the evaluation process is a good place to start.

Much has been written about formative and summative evaluation so a word about each may be in order<sup>3</sup>

Formative evaluation deals with an ongoing process. It is non-judgmental. It could be coaching, mentoring, clinical supervision, or any other collaborative approach. It should not have documentation which winds up in a personnel file, though in some cases it may supply evidence on cooperativeness, etc. which becomes data for a final summative evaluation.

A summative evaluation, on the other hand is judgmental and is responsible for providing the recommendation to continue or

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<sup>1</sup>Overhead on Objectives

<sup>2</sup>Overhead on reason to evaluate

<sup>3</sup>Overhead on formative and summative evaluation

discontinue employment, to grant or withhold increments, to reward or to punish. It is official, final, and is in the personnel file.

Most experts agree that formative and summative evaluation should be done by different people. Such a procedure greatly reduces anxiety on the part of faculty members while tending to promote trust, at least between the formative evaluator and the evaluatee. Some of us may be able to use a department chair as a formative evaluator, others may not be so fortunate.

In the real world, however, formative and summative evaluations are more intertwined than would be desired. Frequently the same person is responsible for both, and just as frequently every written observation report as well as an annual performance report winds up in a person's folder. How, then, can we make such a system work to the best interest of everyone concerned.

For ongoing evaluation and instructional improvement to work we must reduce anxiety<sup>1</sup>. Notice I said reduce, not eliminate; I have my reasons for that. First if we think we can eliminate anxiety when our observations and decisions effect a person's livelihood, we are wrong. Second if you do have a teacher that is not at all anxious about his or her evaluation either you don't do a very thorough job of evaluation, the district does not care, the teacher is very confident, or has had a frontal lobotomy and nothing bothers him.

A little anxiety is a good thing. It keeps people on their toes and provides a motivational force. Too much anxiety is a strong impediment not only to improvement in performance but also to continuing the level of performance which currently exists.

To reduce anxiety when you are formative and summative evaluator it is important to work hard from the start of the year to

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<sup>1</sup>Overhead on anxiety

establish a relationship which minimizes the summative aspect and accentuates the formative aspect of the evaluation process. Some steps could be:

- 1) Have a pre-observation conference stressing that you want to help. It may be necessary too, to simply state that you are not interested in making any faculty changes. Ask the teacher if there is any area he or she would like to work on. Remind them that you will be in more than once and that you want to demonstrate growth in one or two areas, not a metamorphosis of style. Assure the teacher that you are observing him and he should use the styles he feels comfortable with, even though you may suggest others. Judge teachers by how well they do with their styles, not by whether they use your style.
- 2) When you go to visit the class do so unannounced but allow teachers to say 'please not today'--we are all entitled to a bad day and should not be observed then. Also let a teacher suggest a class to visit but do not make that the only class.
- 3) Always find something positive to say, reinforce some good, solid technique, procedure or approach. Say you like it and why you like it both orally and in the written document. We will talk about phraseology later.
- 4) When you detect a problem don't just state the problem, say why and offer specific suggestions on how to solve the problem. Be flexible and be willing to discuss--not just pontificate.
- 5) Fairness is essential, be complete and professional but do not pick one minor point and make it the lynch-pin of a lynching. Remember we all have weakeners and we all have feelings. Kindness helps.
- 6) Be consistent. What is good today for Mr. A is also good for Miss. B and for Mr. A the next time you see him.

These six items will not eliminate anxiety but they should reduce it sufficiently so that it is not an impediment to performance. From personal experience I can tell you that I am know as a tough evaluator and I have been successful in improving instruction, even removing teachers, without depressed faculty morale or unreasonable anxiety (examples-) except when I wanted anxiety.

Lets take a look at some instruments and see how they can be used as diagnostic devices as well as evaluative tools.

First, a rating scale that I picked up from an Illinois district<sup>1</sup>. You can see that various items are to be rated from "Excellent" to Unsatisfactory". Since this page may be difficult to see, let me show you part of one area<sup>2</sup> It is clear that the district is interested in goals and objectives. It is also clear that no definition or guidance is provided to the administration on what constitutes "excellent". One of the buildings in that district took the bull by the horns and exercised a management Franklinada and defined standards==or as Mel Heller always says "get off the dime and lead". The administrative staff of that school came up with the the evidence or data needed<sup>3</sup>. The two data sources were stated in writing and all staff members were informed of this at the start of the year. Still, what is "excellence?" Again, the administrative staff quantified what they were interested in<sup>4</sup>. (Review standard). In a similar fashion definitions were provided for all levels of performance.

The approach taken by that school went a long way to reduce anxiety and make evaluation more effective. Teachers knew what

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<sup>1</sup>Overhead with RI scale

<sup>2</sup> Enlarged Overhead on 1 and 1a

<sup>3</sup> Overhead 1a evidence

<sup>4</sup>Overhead, definition of "excellent"

was expected, what data administration would use, and what standards would be applied. The comment section of the form (return total form to screen) allowed administrators to use a narrative format to explain the reason for the rating--and a smart administrator would use more space and make suggestions.

For example suppose objectives were stated such as "The students will know the capitals of the states".<sup>1</sup> The administrator may decide after discussion with the teacher that an overall rating of general goals and specific objectives was "Needs Improvement". A narrative could be (same overhead, next section). Now lets be prescriptive and try to improve instruction by expanding the narrative (same overhead, final section). We have effectively provided valuable assistance to the teacher and, in continuing to work with the teacher, helped. You see, it is possible to be narrative, if that is your style, even within a system that is essentially a rating scale.

If we stop now, and go no further, we can not expect to see actual change in teacher behavior. It would be appropriate to make a recommendation. If there is no place for recommendations on your form, then include it in you comment section as shown<sup>10</sup> (Review). Making the recommendation is still not sufficient and we must follow up with contacts or consultations, preferably without formal reports. This would provide some formative activity with less pressure and anxiety then would take place if each consultation resulted in a written report.

A brief review<sup>2</sup> First we notice a problem, we explained the problem and why it was a problem, we modeled an improved situation and made specific recommendations on remedial activity followed by hands on assistance and consultation prior to the next

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<sup>1</sup>Overhead on objective and comments  
<sup>10</sup> Overhead on recommendation  
<sup>2</sup>Overhead on review summary thus far

formal observation or evaluation report. Now you have a chance, a real chance to effect teacher behavior change and improve the instructional program.

About this time you are saying-Wait I don't have time for all of this. Sure you do, providing you limit yourself to one, two or at most three performance aspects of a teacher. You, or anyone can cause a teacher metamorphosis over night but you can accomplish the same end in smaller steps (Ben Franklin grape story). As an instructional leader you have to do more then put a sign on your door saying you are the leader, you must act the part and take the time necessary to exert leadership.

It could be you have too many teachers to evaluate, after all the industrial average is from 10-15 people per supervisor. OK, then pick and choose who you will work with and, for heavens sake, start with the workable, not the unworkable. Remember the old adage

Do not start with the turkey's, you don't have enough time. If the turkey is non-tenured get rid of him, if tenured put him on the back burner until you have time to put him in the oven. You can do more to help your students by working with a dozen workable teachers who can and will improve then by concentrating on one or two who will not or can not improve.

To be certain, once some of the good guys are on their way to higher self-actualization and improvement you can start selecting the really bad teachers (if you have any) and work intensively to build your case. Such people may never improve and it will take a good two year paper trail before you are able to try a dismissal on a tenured teacher, so bide your time, build your case and the turkey will eventually get into the oven and the heat will be turned on. By then you want to create anxiety-in the turkey but the rest of the faculty will know full well that he is deserving of being cooked and they will know too that you had helped them and are on their side.



Let me tell you a story of a new elementary school principal in southern Illinois who found a bad teacher. He knew the teacher was bad and so did others on the staff. The principal was encouraged to get rid of the teacher by other members of the faculty and so he wrote some poor evaluations and his superintendent was willing to fight the brave fight. The teacher won. Why? Because the principal did not build a long enough train and make suggestions for improvement. The principal did not take the time necessary to prove his point. The principal depended on the support of other staff who testified against the principal because, as they said, 'it could be one of us next, he is bad but we must stick together'. The principal had not first established himself as a person who truly wanted to help and he had not earned trust and respect. He depended on others. He lost. He is no longer a principal.

Another story of an experienced principal new to a school. There was a bad teacher, but a nice guy. Everyone knew the teacher just did not have what it took. The principal did not make this teacher his first, second or third teacher to formally evaluate, he waited until word got around that he was tough but fair. Finally an observation was made and a 13 page narrative developed. The narrative pointed to problems such as not teaching the curriculum guide for the second year of the language because the teacher was still in the first year material; not using the target language in class except to define a new word, not controlling a class or managing time. The principal provided extensive and specific recommendations for all deficiencies. The principal offered to work with the teacher on a regular basis. The teacher felt anxious and a meeting was held with the building representative and a representative from the state association. The principal talked about how to help the teacher, the teacher talked about avoiding the pressure of observation. The principal would not relent on pressure but again said he would help. Eventually, a month later, the teacher said he would take early retirement but he could not live on his reduced pension. The principal demonstrated compassion and said, for a while, he would use the teacher as a substitute to help him financially. The teacher

retired and subed for one year. The students were better off, the teacher was, in the end, happy, and there was no faculty morale problem. Why no problem? Because help was genuinely offered but refused, because everyone knew the teacher was a viable 'target' and because compassion was forthcoming toward the teacher.

We have seen that an instrument that is generally a check list can be used for an in-depth analysis of a teaching situation and as the basis for a prescription for improvement. Some districts have other forms. This comes from my New Jersey district<sup>1</sup>. Note that there are no guidelines and the evaluator is free to do as he or she would judge best. One suggestion would be to divide the commentary into four unequal parts as follows:<sup>2</sup>

### Description

A brief statement of what took place. No judgements, no detail. If this is more than 10 lines it is probably too much.

### Analysis of Strengths

Almost all teachers have strengths. Tell them what they are and why you believe they are strengths. Dwell on it for a while, let the teacher know you appreciate that behavior, it is great positive reinforcement. Do not do as one New York superintendent told me "never say anything good".

### Analysis of Growth Areas

Notice I did not say 'weaknesses' or 'problem areas'. It goes down a lot easier when you talk in terms of areas where growth is indicated, it is less threatening and causes less anxiety.

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<sup>1</sup>Overhead on Hamilton

<sup>2</sup>Overhead showing definitions

In this section pick out some areas that need work. Identify them. Say why growth is needed and, when possible, model or explain the desired growth. I will give you some examples later.

### Summary and Recommendations

Summarize the observation making certain to mention the positive as well as the negative. Then make very specific suggestions for growth, suggestions that are plausible and that you can monitor.

To demonstrate this format let me show you parts of an observation report with the name changed. I will show the entire description section, one paragraph from strengths, one from growth, and the entire summary section<sup>1</sup>

Now, these documents, comments and recommendations may be part of a formative evaluation process. Lets look at a summative approach which still provides for prescriptive staff development.

Whether you use a check list or narrative many states, such as New Jersey, require some form of professional improvement plan that the teacher will work on during the following year. Such plans are cooperatively determined and are very specific in nature and carry with it an obligation on both the part of the administrator and the teacher. Some guidelines in developing plans would be as shown on the next transparency<sup>2</sup>

First review observation reports and select one or two areas for growth. Discuss them with the teacher and see if he or she has any. Mutually decide on no more than two items to work on, but be sure one of those items is one you identified.

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<sup>1</sup>Series of overheads showing parts of evaluation

<sup>2</sup>Overhead on steps

Develop a very specific plan for staff development for that teacher. Provide the resources, timelines and any assistance that is needed.

Explain how monitoring of that plan will take place and what will be needed to meet the objective.

In every observation the subsequent year make certain that the plan goals are kept in mind but do not limit work on the plan to formal observations, be available to provide assistance.

As an example, let me show you a copy of a plan that I have been using this year with two teachers who needed to demonstrate growth in the area of preparing teacher tests<sup>1</sup>

I hope I have been able to show that evaluation is a natural feed for development. Evaluation is also diagnosis and from that can come prescription. It makes no difference if the instruments used are check list or narrative, from every observation comes data for diagnosis and prescription as well as evaluation. Remember that just as a doctor who evaluates your case but fails to give you a diagnosis and a curative prescription has not done his or her job, so too the administrator who evaluates without diagnosing and prescribing has not done his job.<sup>2</sup>

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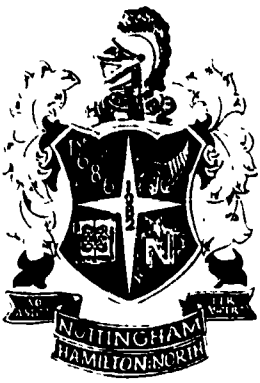
<sup>1</sup>PIP overhead

<sup>2</sup>Overhead on Cycle

*ATTACHMENT*

**STAFF EVALUATION:  
STRATEGIES FOR  
CONTINUOUS  
INSTRUCTIONAL IMPROVEMENT**

**Dr. William A. Rieck**



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JEAN HAUER  
VICE PRINCIPAL

February 25, 1989

Dear Colleague;

Thank you for attending my discussion session on **Staff Evaluation: Strategies for Continuous Instructional Improvement**. I realize there are many distractions in this fine city and many other programs you could attend. I hope you found the session of some value, or at least interesting.

This packet of material contains all of the overhead transparencies which I used as well as a copy of a follow-up memo on the Professional Improvement Plan outlined in the presentation. I hope this material is helpful to you. If you purchase the audio tape of this session this booklet can re-create the discussion session for you, or others in your district.

Please feel free to use this material in your home school or district, I only ask that you credit the source. We are, after all, working toward the same goal of improving instruction.

Finally, please feel free to call me if you have any questions. While at the convention I am at the Hilton and after the convention you can reach me at school between 7:30AM and 3:30PM. If you call me at Nottingham and I am not there, set an appointment time for you to call back and my secretary will make certain I am available.

Very truly yours,

*William A. Rieck*  
William A. Rieck, Ed.D.  
Principal

## OBJECTIVES

- 1) That evaluation instruments can be used for continuous instructional improvement by creating a method for developing prescriptive improvement plans.
- 2) That good evaluation can take place and anxiety can be reduced through the use of good technique.

## **PURPOSE**

**The only valid reason to evaluate staff is to improve the instructional process.....**

**though that may, at times, mean the removal of a teacher.**



## **EVALUATION TYPES**

**Formative: Ongoing, no judgements, no decisions.**

**Summative: Judgemental, decision making**

**In the real world evaluation is usually both formative and summative, frequently with the same administrator performing both tasks.**

# Anxiety

**An abnormal and overwhelming sense of apprehension and fear often marked by physiological signs, by doubt concerning the reality and nature of the threat, and by self-doubt about one's capacity to cope with it. (Webster's New Collegiate)**

- 1) Pre-Observation Conference-Try to set teacher at ease-tell them you hope to help and are not interested in changing staff.**
- 2) Teacher Freedom to say 'not today'**
- 3) Positive Feedback - always find something good to say and write.**

- 4) **Give Reasons** as to why something is good, or not good
- 5) **Fairness** is essential, don't dwell on a minor negative and forget the positive.
- 6) **Be Consistent** - What is good for the goose is good for the gander, today and everyday.

**INSTRUMENT FOR EVALUATION OF TEACHER PERFORMANCE**

(when a grade of unsatisfactory or needs improvement is given, the comment block must be completed)

**COMMENTS:**

1. Establishes learning objectives consistent with appraisal of student needs as follows:

- a. Establishes general goals and specific objectives
- b. Uses teaching techniques fitting the situation
- c. Provides a physical environment suitable to the teaching situation--that is, bulletin boards, lighting, arrangement of furniture
- d. Planning - lesson plans

2. Plans for and uses instructional methods and resources which motivate each student to achieve learning objectives as follows:

- a. Demonstrates knowledge of subject matter
- b. Makes effective use of resources available
- c. Uses teaching techniques appropriate to the learning objectives
- d. Utilizes such human-relations techniques as acceptance, praise, humor when warranted

3. Plans for and utilizes evaluation techniques which motivate and enable each student to achieve learning objectives as follows:

- a. Maintains appropriate level of class control

Un:atisfactor:	Needs Improvement	Satisfactory	Above Average	Excellent	n/o



**1. Establishes learning objectives consistent with appraisal of student needs as follows:**

**a) Establishes general goals and specific objectives.**

**1a. Establishes general goals and specific objectives**

**Evidence or Data**

- 1. Examination of written goals and objectives as supplied by the teacher.**
- 2. Discussion between administrator and teacher on goals or objectives and their educational rationale.**

## **Excellent**

- 1. The teacher can provide, upon request, goals and objectives for all lessons or units.**
- 2. Objectives are all behaviorally stated and are well written demonstrating what performance is expected of the students.**
- 3. The teacher can discuss goals and objectives with the administrator and provide an educational rationale for the objectives.**
- 4. All goals and objectives demonstrate adherence to board policy and administrative procedure.**

**“The students will know the capitals of the states”.**

**The objective “...” lacked specificity with respect to student outcomes. The term “know” means different things to different people and is not sufficient. In our post observation conference Mr. Smith indicated he expected students to be able to place and name the capitals on a blank outline map.**

**An improved objective could be “The students will be able to complete and outline map correctly naming and locating all state capitals” This objective more accurately reflects student outcomes.**



**Based upon this observation I would recommend that Mr. Smith take care to be certain that all objectives are written in terms of what students are expected to learn. To assist with this Mr. Smith may, at his option, follow one or more of the specifics below. I will examine Mr. Smith's plan book at the start of each week for the purpose of providing informal feed-back on objectives until the next formal observation report.**

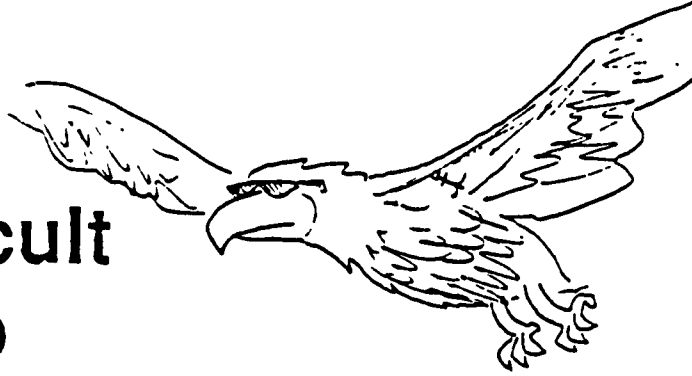
- a) Review Bloom's Taxonomy or some of Maeger's work on objectives**
- b) Discuss with me your planned objectives prior to writing the weeks lesson plans**

- 1. Observe a problem**
- 2. In the formal report**
  - a) Identify the problem**
  - b) Explain why it is a problem**
  - c) Model an alternative**
  - d) Recommend remediation**
- 3. Offer and provide assistance, informally if possible (keep notes)**
- 4. Re-observe formally to show growth.**

**Improves Instruction**

**Reduces Anxiety**

It  
Is  
Difficult  
To  
Soar  
With  
The  
Eagles  
When  
You  
Work  
With  
Turkeys



# HAMILTON TOWNSHIP SCHOOLS

Mercer County, New Jersey

## OBSERVATION REPORT

**DIRECTIONS:** Comments, instructional and/or non-instructional, should be based upon the criteria listed in the Job Description and should indicate areas, methods, and schedule of required growth.

NAME \_\_\_\_\_

SCHOOL \_\_\_\_\_ DEPT / GRADE \_\_\_\_\_

DATE \_\_\_\_\_ TIME \_\_\_\_\_ EVALUATOR \_\_\_\_\_

\_\_\_\_\_  
Evaluators Signature

\_\_\_\_\_  
Title

20

\_\_\_\_\_  
Teaching Staff Member's Signature

\_\_\_\_\_  
Date Copy Handed to Teaching Staff Member

Signature of Teaching Staff Member indicates only that he/she has read the report and has been given a copy.

Comments by the teaching staff member may be attached to this form.

## **Description**

- 1) Brief**
- 2) Factual, non judgmental**

## **Analysis of Strengths**

- 1) Say what is good**
- 2) Say why it is good**
- 3) Give praise**

## **Analysis of Growth Areas**

- 1) Identify the area for growth**
- 2) Say why growth is needed**
- 3) Model the growth or give examples**

## **Summary and Recommendations**

- 1) Summarize everything**
- 2) Make recommendations specific**
- 3) Make recommendations meaningful**
- 4) Make recommendations measurable**
- 5) Let the teacher make a professional decision on what to do.**

## **Description**

**This ninth grade Physical Science class started on time with all students prepared to work. Ms. Jones used a lecture-discussion approach to teaching a lesson on atomic structure. The class continued to the end of the period when an assignment was given.**

**As part of this observation Ms. Jones' grade book and plan book were reviewed. Both documents were up to date and the plan book reflected board approved curriculum.**

## Analysis of Strengths

Ms. Jones made excellent use of the overhead projector. For example, in discussing atomic structure diagrams were placed on the projector using different colors to represent electrons, protons and neutrons. Students were asked to supply the appropriate information. This technique provided for both the auditory and visual learner while the overhead allowed Ms. Jones to remain in a position where she could see the class and they could see what was written. The use of color was a discrimination aide. Finally, by facing the class Ms. Jones was assured that all students could hear what she had to say.

## Analysis of Growth Areas

While Ms. Jones asked questions during the class, there is room for growth in this area. For example, Ms. Jones said "John, how many protons are there in oxygen?" whereupon an unidentified student said "8". Ms. Jones followed with "Melissa how many electrons?" Melissa responded "8". These and similar questions were all on the lower levels of cognition and never was a specific student identified to respond to the question.

A district goal is to foster the development of higher order thinking skills. There were opportunities to work toward this goal which were missed. For example, why not consider asking "Why did you say 8 protons? What gave you the clue?" A question such as this would cause a student to reflect on the relationship between



- 1) Try to infuse more higher level questions. Questions such as “Why?” or “What relationship do you see?” You may want to consider consulting resources such as Bloom’s Taxonomy or Ornstein’s excellent articles on questioning. I have copies of these and would be pleased to loan them to you. Or you may, at your option, set up an appointment with me to discuss higher level questioning.**
  
- 2) Consider identifying a question respondent after the question has been asked and waiting 3-5 seconds before going to another student.**

## SUMMATIVE PRESCRIPTION

- 1) Review observation reports
- 2) Select, for consideration, one or two growth areas and have the teacher do the same.
- 3) Develop a specific plan for one or two goals.
  - a) Goal
  - b) How will the goal be reached
  - c) Time frame
  - d) Help which will be provided
  - e) How will attainment be judged
- 4) Monitoring

**the number of protons and the atomic number of an atom rather than, perhaps, reading the information from a table in the book.**

## **Summary and Recommendations**

**This class was well organized and structured. Students were attentive and the use of the overhead projector and color coding of sub-atomic particles enhanced the overall delivery of the plan. The lesson reflected board approved curriculum and the plan book was complete containing excellent objectives and lesson design. There are two recommendations for refinement of technique which could improve this and other classes:**

**5) The test will be designed so as any student properly placed in practical chemistry should be able to satisfactorily complete the test. Therefore, it is expected that most students should pass the test unless the grade book indicates failure to do homework assignments and/or there is indication that a student is improperly placed. This is not to be construed as an assumption that all students will pass since that would not be realistic. However a goal would be a pass rate of 90% or more.**

## **Assistance Required**

- 1) The principal will serve as a consultant in test construction. The first unit test of the year in chemistry will be reviewed by the principal prior to administration.**
- 2) At Mr. Smith's discretion the principal will consult in the design of any or all unit tests prior to their construction. Should the principal be consulted he will, for the first test, go through all of the procedures with Mr. Smith as enumerated in this plan.**
- 3) Mr. Smith is free to utilize the services of Dr. Jones, science supervisor, should he desire to do so.**

# Professional Improvement Plan

## Objective

To develop unit tests in practical chemistry which reflect student learning objectives and good testing practice.

## Plan of Action

- 1) In constructing each unit test Mr. Smith will start with the list of objectives covered in the unit and will determine the relative importance of each.

- 2) In designing each unit test once the number of objectives and relative importance of objectives has been determined Mr. Smith will design test items to test each objective and/or multiple objectives showing their inter-relationships.**
- 3) Once items are constructed the test will be designed so as to reflect the relative importance of objectives.**
- 4) All tests that are constructed will contain no true/false items nor any multiple choice items with fewer than four reasonable choices. Completions will account for not more than 10% of the test. Each test will contain problems and/or free response items which require learning above the level of comprehension.**

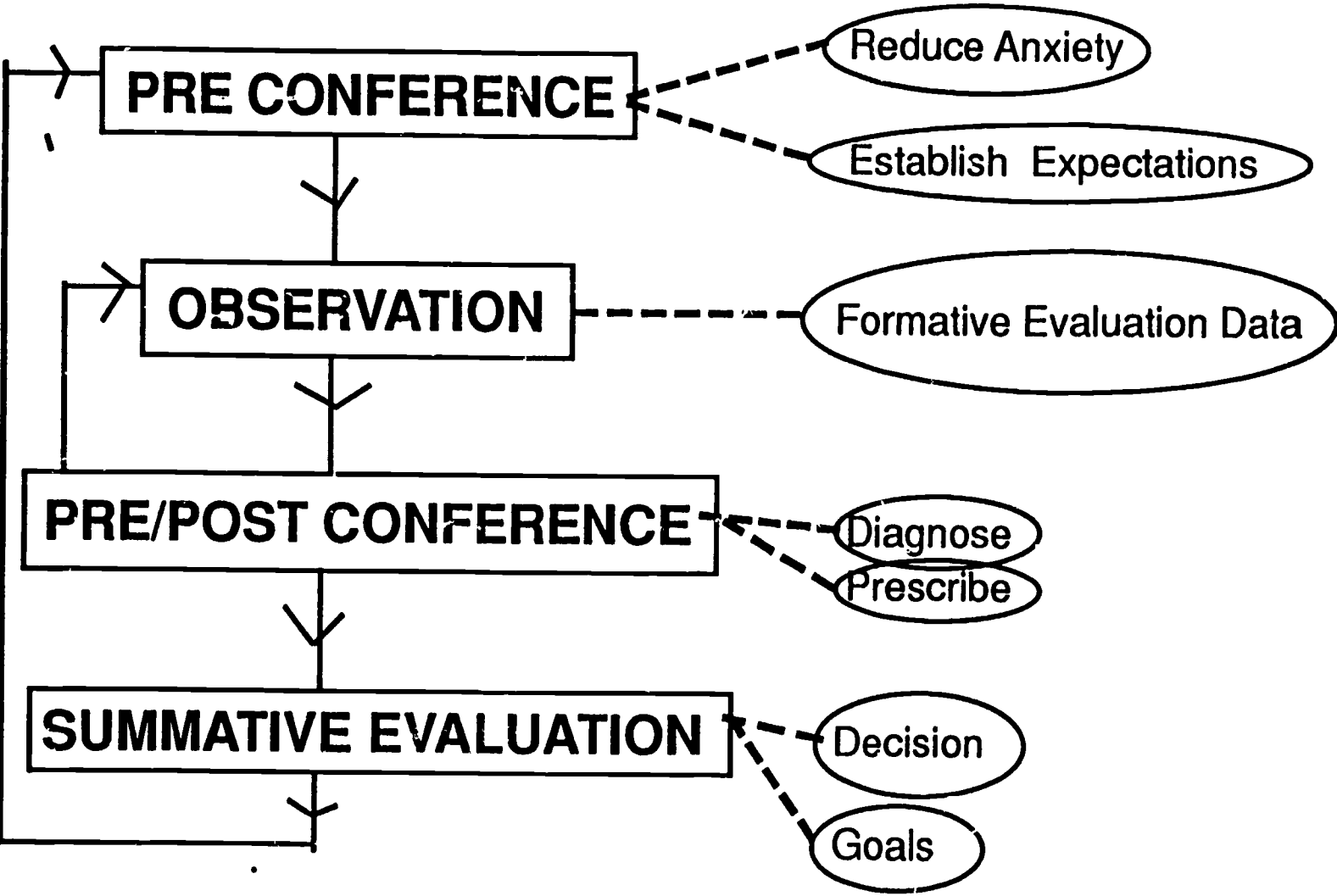


## **Time Frame**

**This Professional Improvement Plan starts with the first test of the 1988-89 school year and continues throughout the year. Each test will be presented to the principal at least two days prior to it's administration. The principal will review the test and confer with Mr. Smith.**

## Evaluation

**This professional improvement plan shall be considered satisfactorily completed if Mr. Smith adheres to the submission of tests and if those tests ultimately are approved for use. It is understood that there may be a time when the principal no longer considers regular submission necessary. It is also understood that student performance on the tests will not be a factor in determining the success of this plan.**



**NOTTINGHAM HIGH SCHOOL**  
**Dr. William A. Rieck, Principal**

To:  
From: Dr. Rieck  
Date: October 15, 1988  
Subject: Unit Test Analysis

Thank you very much for providing me with a copy of your first unit test in accordance with your PIP for the 1988-89 school year. I have analyzed the test and compared the test items to the objectives in your plan book. What follows is a result of that analysis and comparison.

### **ANALYSIS OF TEST ITEMS**

I found all of the test items to be reasonable and in accordance with objectives found in your plan book. There are, however, two items on which I will make specific comment.

(1) In item #16 to add "(To answer fill in more than 1 letter)." This tells the students that there is more than one letter for the answer. It would be better to include directions such as: "More than one letter may be used, if needed." This more general direction does not provide the clue that your phrase does, yet, it still informs students that more than one letter is possible.

(2) In item #35 two choices may cause difficulties. Specifically, the terms "theory" and "model" are sometimes used interchangeably in science. In the event that a clear distinction was made between the two terms, then my concern would be justified. Often, however, scientists use modeling as a method for expressing a theory.

### **ITEM-OBJECTIVE AGREEMENT**

While all test items were covered by objectives, not all instructional objectives were tested. Below are listed the objectives not tested and sample test items that could be used to test those objectives. It is understood that my sample items are not the only way to test the various objectives.

(1) "*Students will describe the correct way to ? an experiment.*" I could not make out the word where the "?" appears, but the content section of the plan book develops the various parts of the scientific method, omitting the gathering of background information. Three sample test items will be provided at three levels of cognitive complexity.

- (a) List, in sequence, the steps followed in the scientific method or experimental procedure.
- (b) Describe each step in the scientific method (or experimental procedure.)

- (c) Select a problem from your everyday life and write a brief essay explaining how you could use the scientific method (or experimental procedure) to solve that problem. Be sure to include each step that we discussed in class.

(2) *"Students will be able to define chemistry, matter, and practical chemistry."* The items below are all on low-cognitive levels, except for the final item which requires higher order-thinking skills.

- (a) Define the terms chemistry, matter, and practical chemistry.

- (b) Matter is anything that has \_\_\_\_\_ and takes up space.

- (c) Chemistry can best be defined as:

- (A) study of matter and changes that occur in matter  
(B) study of the physical nature of matter  
(C) study of compositions used in households  
(D) study of atoms

- (d) Construct a short essay in which you distinguish between chemistry and practical chemistry. Be sure to include the definition of each, as well as an explanation of the difference.

(3) *"Students will be able to give the rule for writing symbols."* Two forms of test items are provided—each of which is a low-level question in terms of cognition.

- (a) List the rules for writing chemical symbols.

- (b) Which of the following is not a rule for writing chemical symbols?

- (A) Use a capital for the first letter.  
(B) Use two letters only when there is another element with the same first letter.  
(C) Always use Latin names for elements.  
(D) Never capitalize the second letter of a symbol.

(4) *"The students will review elements and their Latin origins."* The term "review" is not stated in terms of student goals, but rather a process. Assuming that students are expected to be able to understand and write the Latin and English names, I have framed two forms of test items.

- (a) The Latin terms Ferric, Ferrous and Ferrum refer to the element we call \_\_\_\_\_.

- (b) The Latin terms "cupric" and "cuprous" refer to the element we call

- (A) cobalt  
(B) copper  
(C) cesium  
(D) calcium

(5) *"The students will be able to list three differences between a model and an atom."* It is evident that the quickest way to frame a question would be to construct an item as below, but others are also available.

- (a) List three differences between a model and an atom.
- (b) Explain how an actual atom differs from the model we studied.
- (c) Which of the following is a difference between an atomic model and an actual atom?
  - (A) The model does not contain the correct number of neutrons.
  - (B) The model does not correctly show electron paths.
  - (C) The model does not show correct number of electrons.
  - (D) The model does not show placement of protons.

Time does not permit me to construct items for all objectives that were not covered on the test. Please look at Objective 2 for day 5, Objective 2 for day 9, Objective 2 for day 11 and Objectives 1 and 2 for day 12 for other areas not directly covered on the test. Feel free to discuss this with me and discussion takes somewhat less time than this form of analysis.

### **TEST DESIGN**

It is certainly acceptable to utilize a totally multiple-choice test, but I would prefer it if you would consider using a variety of test items which would reduce the boredom factor and provide students with items that may be more to their liking (different students have different preferences). Consideration should also be given to at least one item that requires the students to write an answer in complete paragraph form which would help in the development of their writing skills, as well as their thought process.