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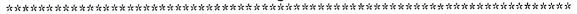
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ABSTRACT

This paper reports a fragment from a recent investigation into student perceptions of effective teaching practices. The larger inquiry sought to ascertain which instructional methods, strategies, and activities employed by teachers are perceived as effective learning experiences by students. Specifically, this study focuses on the characteristics of effective methods of teaching from the point of view of eight high school seniors who were individually interviewed utilizing a format of open-ended questions and follow-up probes. Five distinct themes emerged related to classroom practice: (1) teaching methods can be effective for various reasons; (2) factors teachers should consider when framing lessons; (3) the teacher's presence; (4) the teacher's personality as a factor in learning; and (5) students' preference for whol class and individual methods as opposed to forms of group work. The findings discussed here bring together a manageable representation of the students' thinking and conversation. Informants' suggestions formed the basis for concluding that effective teaching is the coming together of method, context, student effort, and teacher commitment. The key factor in the classroom, however, remains the teacher's personality. (Contains approximately 40 references.) (LL)



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"The Way Teachers Teach Is, Like, Totally Whacked":
The Student Voice On Classroom Practice!

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notion of going to students to inform teaching is an old and valued practice. Cohen and M (381) cite research looking at pupils' perceptions ci teachers' behavior (Hollis, 1935), general competence (Allen, 1959), the "good" teacher (Taylor, 1962), and teacher qualities (Evans, 1962). Hoppe (1949) was interested in student perceptions of schooling as they related to student involvement in the improvement of curriculum within the framework of advancing democratic ideas of participation.

Contemporary researchers have investigated student perceptions of schooling in a number of important areas, including school as work (Frager, 1984); the critical elements of teaching (Ingersoll & Strigari, 1983); what schools should be like (Poole, 1984); expectations of the future, values, and schools (Wagenaar, 1981); attitudes toward academic course work (Sosniak & Ethington, 1988; Sosniak, et al., 1987); effective teaching (LaBonty & Danielson, 1988; Maroufic, 1989); generic schooling skills such as punctuality, bringing materials to class, interest in making progress, interaction with teachers, and completing assignments (Brown, et al., 1984); like and dislike of mastery learning (Geeslin, 1984); liking for specific subjects (Chiapetta, et al., 1990; Hofstein, et al., 1986; Denny & Chennell, 1986; Cervone, 1983); cooperative learning (Talmage et al., 1984); teaching in general (Wilson, 1981, Snyder, 1984); fair vs. unfair teacher activities (Smith & LaPlanta, 1980); and classroom learning environment (Byrne, et al., 1986).

Bailey (1983) reminds us that "it is important to remember that student feedback items created for improvement of instruction may be considerably different from those created for teacher evaluation or teacher rating scales" (p. 27). Student feedback is defined as "the process of collecting student information for the purpose of instructional improvement" (p. 6) and is not

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for teacher evaluation or making administrative decisions on retention, promotion, or tenure.

Some time ago, Meighan (1977b, cited in Cohen & Manion, 1981, p. 126) concluded that "there emerges a degrate of consensus in the general findings (that pupils) are able to offer a wide range of constructive, and nostly, feasible alternatives" to other forms of research on teaching and that "the perceptions of pupils appear to be valid enough and reliable enough to consider seriously as feedback." Crist-Witzel (1979) reviewed a number of studies on the feedback to teachers of observations by students of teacher behavior and concluded that such feedback can have a positive influence on teacher actions.

In an effort to give voice to student concerns, Lloyd and Lloyd (1986) asked twelve Belgian students: (1) How can your teachers better teach you? and (2) What would you like to have your teachers do in the classroom so that you could learn with more enthusiasm? They received wide-ranging answers indicating that teachers should: use a positive approach; not stress errors when they evaluate student work; provide a pleasant learning atmosphere; show enjoyment of teaching; use humor; not cover up their mistakes; give homework; let students talk.

Additionally, teachers should give students a sense of how the constituent parts of a discipline fit together. They should "... show, tell, demonstrate and have students actively participate in lessons of every sort" (p. 268).

Olson and Moore (1984) combined inquiry into both teacher characteristics and effective teaching methods. In an innovative project that included using students as researchers they surveyed 2,670 high school and middle school students and 137 teachers in four California school districts, of whom they asked a variety of questions on the quality of teaching in their schools. They report that from the student perspective a good teacher knows the subject well, explains things clearly, makes a subject interesting, gives extra help to students, has a good sense of humor, is fair and consistent, and gives regular feedback. A poor teacher is confusing, plays favorites, embarrasses students, has poor control of the class, does not know the subject well, and will not answer student questions or give help when asked. There are strong parallels between the preferred teacher behaviors expressed by students in this report and those behaviors



commonly identified in the literature as characteristic of effective teachers (Good & Brophy, 1988). Olson and Moore (1984) conclude that good teachers use interactive teaching strategies such as group discussion, one-to-one assistance, and small-group work and that poor teachers "... utilize far fewer interactive classroom methods, and provide few (or no) opportunities for students to work collaboratively" (p. 42).

There are several compelling reasons for listening to what students have to say about teaching and learning. Firstly, we can increase our awareness of how students perceive the social reality of the classroom and "come to know the world of school through the eyes of students" (Weinstein, 1982, p. 35). Second, there are important implications for improving teaching in the comparisons to be made between student perceptions and teacher perceptions of what works in classrooms. A third reason to be concerned with student perceptions of effective methods of teaching is that it is an important piece in the puzzle researchers and practitioners are jointly and continually constructing in the effort to create effective classroom environments. It provides information from the viewpoint of the major dependent variable in the classroom, that is, from the student who is the beneficiary of the process taking place in the black box of the experiment called schooling. Finally, listening to the voices of students validates them as partners in the educational process. It gives students a share in the management of the learning environment by including the student voice in the analysis of data that leads to decision making. As they are the recipients of the benefits of education, it seems reasonable and fitting to include students in the process of attempting to improve instructional practice.

Study Design

This paper reports a fragment from a recent investigation into student perceptions of effective teaching practices. The larger inquiry sought to ascertain from the student point of view which instructional methods, strategies, and activities employed by teachers are perceived as effective learning experiences by students, that is, what works in the classroom for students from their perspective.



The central question of the study was: What are student perceptions of effective methods of teaching? The study explored student perceptions of effective teaching methods through descriptive and interpretive analyses of data gathered from surveys and interviews with a population of high school seniors. The inquiry centered on three broad questions: 1) To what extent did students experience different teaching methods, strategies, activities, and formats in the course of their secondary education? (2) How do students rate teaching methods in terms of their effectiveness? (3) What are the characteristics of effective methods of teaching from the student's perspective?

It is this last question, How students characterize effective teaching methods, that this paper focuses on. Though the larger project utilized survey data as well as interviews, this paper is limited to analysis of the student voice as it is reflected in interviews. Eight students from the original survey group of 87 were individually interviewed utilizing a format of open-ended questions and follow-up probes. Interviews ranged from an hour to an hour and a half in duration. Interviews were transcribed and coded in three ways for analysis. One procedure was based on the interview protocol. Interview questions were keyed to research questions and responses were clustered accordingly. A second procedure identified and labeled particular teaching methods as students commented on them randomly during the interview. While one section of the interview protocol addressed teaching methods specifically, students would commonly refer to methods for exemplary purposes throughout the discussions. Thus, the analysis pulls together student thinking on teaching methods both when the structure of the interview directs their attention to methods as well as when they voice their thoughts on methods in the course of their reflections. Finally, interviews were coded for emergent themes. Using three levels of coding served as a way of triangulating the analysis of each interview transcript. providing a high measure of certainty that the thinking of each student on a given theme or method was sufficiently represented.



What Students Say About Effective Teaching Methods: Emergent Themes

The findings discussed here bring together the thinking of eight high school seniors clustered in five thematic areas related to classroom practice. In an inquiry that relies so heavily on the voice of the informants, meaning builds cumulatively. Each student alone is a study; the students together augment, color, provide contrast to each other. Yet the data of rich conversations must be reduced to a manageable representation. Inevitably, all of the "voices" cannot be fully rendered; some of the harmonies as well as the dissonance of the choir are necessarily lost.

(1) Methods can be effective for various reasons. A number of themes emerge as students talk about what specifically makes a teaching method effective. Some talk about there needing to be evidence that there is planning behind a method. Jackie explicitly says that a teacher needs to "visibly [make] it a planned thing." Ling finds effective those methods that are sequentially clear:

A method should work out, you know, step by step, sequenced, and if you're gonna have a method that has a lot of confusion going in a repetiti[ous] way, then you won't get anything done. A method should go step by step to help you understand more, to make you think more.

Underlying student desire for transparent planning and sequenced teaching is a concomitant desire for teacher imposed structure that will relieve students of stress in the classroom. Jackie speaks of feeling the "threat" of time. For her, a method should be "enjoyable." Ling says a method "shouldn't put so much stress on you." For Jennifer, "... first of all, you gotta like it."

Students, however, are not content to be passive players in the classroom. Though they want teachers to make "you feel like you belong there," as Frank says, and that, in Ignacia's words, teachers should be "dealing with students... not just standing there [lecturing]," they recognize that students have a responsibility to be engaged in their learning. Jennifer puts it succinctly: "... it doesn't matter what method it is ... it's up to you to put your mind to do the work... the only way a method is effective is if you take advantage of it, whatever it is." An effective method is one that spurs students to learn. Says Mei Mei: "I think it's effective in the way that we get to ... ask ourselves the questions that we don't know."

Turley/ AERA 1994 / 3/94 draft



- 1

Ineffective methods have the opposite characteristics. Assignments are unclear, students are not given enough time to complete them, they are not held accountable for their work, teachers do not create a sense of meaning for students, class is stressful.

Most saliently, ineffective teaching methods fail to engage students. This is expressed in different ways. Frank offers that

What's ineffective would be a teacher that's just speaking words, not even reading from a book, or not writing c.. the blackboard, just blurting out words to you without even giving any particular meaning, like just reading the story and then ... having you memorize particular events in the story, not even ask questions about what does this mean to you.

When methods do not engage students, Jennifer finds that "... you're not doing what you're supposed to do... or you don't tend to participate in class or do homework." For Jackie, disengagement occurs when teachers do any of several things:

Well, if you have a sense that the teacher is gonna let you go by if you end up not coming up with anything, then usually you will not do anything. If the assignment is very unclear... Some teachers just say a few directions, you still don't understand what it is, and then they avoid discussion, and ... not having enough time. Some teachers think you can do things very fast, when not at all.

Teacher lack of attention to skillful implementation of a method contributes to its ineffectiveness. Speaking of working in a group and discussing an assignment, Mei Mei says that

... it would be ineffective when the teacher does not have the time for each individual group -- to go around [and] ask them, see how they're doing -- because sometimes when teachers leave it to us to do the work, you know ... we just seem to start to fool around with the work instead of being serious and start helping and discussing about it.

Though she faults teachers who do not actively implement a method -- in this case appropriately monitor students working in groups to see that they are getting started properly -- she does not lay all of the responsibility on the teacher. She recognizes that student dithering sometimes has to do with "age and maturity." But we also hear again from her the student desire for teachers to structure methods so that students are not set adrift without a rudder:

It's ineffective when the teacher just leaves it all to the students because not all the students are... mature enough to just sit there and really do the work...all along we've been used to having a teacher guiding us or pushing us, you know, whipping at our backs and telling us to do the work.



(2) <u>Factors teachers should consider when framing lessons</u>. Students are in general agreement that teachers need to consider students first when deciding which method to use.

Frank poses a series of questions teachers should ask themselves:

They should think about, "Did the student understand this?" They should think about, "What am I actually saying?" "What did I actually mean?" They should think, "Am I making myself clear? Am I being too general? Being too specific?"

They are well aware that methods work differentially for different students. As Frank points out,

Students learn in many different ways. Students learn in very general ways, students learn in very specific ways. Each student is different.

Mei Mei's English teacher appears sensitive to this:

In my college writing class, my teacher does use a number of creative methods that are maybe suitable for different levels of students because . . . our level of writing . . . has great diversity. Some of us can think very well, have very good ideas, but can't really put it into words, don't know how to express it. And others . . . can write but they cannot really think of creative ideas. But my teacher will use a number of different ideas . . . for different kinds of students at different levels.

Marian, too, feels that teachers need to consider the needs of all students when they make decisions about teaching methods:

'Cause there's some students in the class [who] have different abilities and capacities. I mean, some students are slow learners, some students are fast learners. She should use, like, methods -- how do you say? -- for all students.

Ignacia empathizes with her peers:

Once you just start lecturing. I mean, I might like it but other students might, you know [think] this is a waste of time, I'm not taking anything in, I'm not getting hands-on... and I just can't take it. So you should try everything to make your students comfortable.

Class size is another factor teachers need to consider, according to Ignacia:

I think they should consider the class size, because you can't have little groups everywhere and expect them to do their work if you have 35 kids in the class . . . it's like chaos all over because . . . this group is going to be on one level, and the next group here, and if they're with their friends it makes it even worse, you know. You have to make the students comfortable but you just can't let them be with their friends and then not do any work.

Jackie responds that a new teacher, or one returning to teaching, might "get pointers from other teachers." But she also feels that teachers should "ask opinions of students. What the students think might be effective in learning as well." She feels that teachers should look to see "if kids participate . . . if kids are doing well." Teachers should give careful attention to the amount of



homework and class work they ask of students when choosing methods: "I think the teachers should be aware of now much homework they give because it's always an issue... class work, too."

Ling points out that teachers should be ready to change strategies if necessary: "If you have to change gear of the method, then you should change it, you know." Interestingly, she feels that teachers should be subtle about making the switch from one instructional strategy to another if the first is not working out,

because, like, once you change the method, I mean, it'd be like "Oh, she's just testing us," you know, in the beginning, and it'd be like "Oh, what am I answering her for?" If she wants to change something that she has did in the first place, before she asks us questions. Once you let the students know that you change the gear of the method, and then they'd be "Oh, I don't wanna answer her no more," you know.

Mei Mei reminds us that teachers need to be aware of the individuality of students, particularly of their ethnicity, when selecting teaching strategies:

I think he or she also has to consider what kind of student that she has, like what kind of ethnic group. Say, for instance, if she's gonna teach American history to a large group of Asian students, and I mean particularly Chinese students, or Taiwanese . . . also it depends on the level of the work that she's teaching . . . I think she has to consider about putting a little bit longer time on the lessons . . . because we're not exposed to it, especially if they're immigrants . . . sometimes, even myself, I'm gonna find it hard to understand American history, about what went on, even though it's a short period of only two hundred years, as compared to a Chinese civilization from, like, 3000 or 4000 years, because you're exposed to it all along, you've been brought up with it, you know. It would be very easy, it would be much easier for you to absorb the work than a different kind of culture where everything is very different, and the way the government works . . . so I think it does go into play that they have to think about what kind of students that they have.

Similarly, Yolanda expects teachers to consider students as more than faces in the class when they think about instructional strategies.

They should consider . . . what the students are learning . . . what the students' abilities are to do the work . . . sometimes you should consider our homes and things, what problems they have . . . they should consider how the kids, you know, are doing . . . how the students behave.

In addition to being aware that teachers need to vary their teaching strategies in order to reach all students in a class, students perceive that variety helps maintain interest. "That would keep the class interesting, you know, something different every time," according to Yolanda. For Jackie, variety is not "... necessary as long as they see that what they're doing is good." But she



also feels that teachers need to be aware of the effect of their instructional strategies and alter them when necessary:

I mean, I think that some teachers are completely oblivious to how kids react. They don't do anything about what they're doing at the present. But it doesn't have to be something different every day, although change would be able to invigorate some students who are never interested anyway. But, otherwise, I don't see really a need.

Jennifer feels that teachers, even as they keep in mind the need to vary their activities, should choose methods that fit the subject. Speaking of her art class, she says:

It's, like, you don't want them to sit down all day and give you notes on art. You want to draw. That's the basic thing about the class, you just want to sit down and look at something and draw it or put your own ideas to it. So I basically think it depends on the class.

Half of the students in the interview cohort report that their teachers do not use a sufficient variety of methods to suit them. Says Yolanda, "Some people [use] whatever they [want], but . . . some teachers tend to stay with some methods, you know, like, standing up in class and giving the lecture, you know . . . just do your work." Jennifer believes that teachers don't consult students enough:

... basically, it's, like, you're going to school but you have a mother. It's not really someone that you sit down [with] and discuss things. It's, like, they tell you. They don't actually come out and say, "You have to do it." but you know you have to do it in order to pass the class. So, basically, [it's] a demand thing: you do this and you get that. Plain and simple. Or they would give you projects to do, and it's required for you to do those things. They don't really say, "What do you want to do?" Or, "What is easier for you?" Or stuff like that. It's basically demand.

Some students express disappointment with their teachers who, they believe, do not use "recent" teaching strategies. Ling, for example, says: "Some teachers, you know, they'd be like, 'Oh, I did that in high school, it's working out for me.' They don't know that . . . times are different now."

And Marian:

... it's, like, it's weird. All the classes, like, I told you before, it's nothing new, same old thing. Teacher just gives us assignments to do and that's it, the [Liberal Arts] way. It's always been like that. Some students say, "Oh I like it that way." They don't say anything about it, but it's, like, such a boring way. That's the way you do it.

Even among students in the interview cohort who say that their teachers use a sufficient variety of methods, it appears that their teachers actually use a small repertoire of instructional strategies consisting of variations of lecture and groupwork. There are several possible



explanations for this. The satisfaction of these students may indicate that they are unaware of a wider range of teaching methods than the limited number the have experienced. That is, it may be a simple matter of a lack of exposure. Or it may indicate that they are satisfied for the most part with a relatively few methods used repetitively with which they have experienced success and, therefore, see no reason to experiment with teaching and learning strategies in which they may not do as well. Then, too, the satisfaction these students report could be an expression of feeling safe and secure in the predictableness such teaching might engender in students for whom school is an ordeal to be got through rather than a process that offers intellectually challenging uncertainty as an avenue of learning.

Two further quotations serve to render the reality of classrooms with a narrow range of teaching strategies. The first is from Ignacia who, though she says her teachers use a variety of methods, reveals in her discourse that, in fact, the type of lesson activity her teachers structure is rather limited:

We do get a variety 'cause we have lectures, and we have the ones who like the group work and like you to do the job and the work and then they just sit there, and then we have the other ones -- interactionists, I call them -- 'cause they care about what you're doing and what you're learning and any questions that you have. And individual, I have, the teachers, most of the time, one teac' or does one or two things. Like my sociology teacher, she lectures and then she puts you into groups. My college writing teacher, she never lectures. She always has either a big group or then separate little groups. It varies.

Jackie describes a classroom in which the teacher seems to be aware of the need to alter teaching strategies, but does so in a limited way:

[F]or instance, something like what's called The Great Books class. That's an English class. That class is so unstructured. Every day you don't know what to expect. The teacher just simply relies on asking some questions and then it's up to the class what they want to do with it, and he usually ends up talking the whole period. Most kids fall asleep. They're not interested in what he has to say and they're overwhelmed by his dominance. like talking forever. Just lately, for instance, he's done what's called group work again, and that's working out well because it's actually something . . . and each group then goes in front of the class and they . . . present their answers. And although it's somewhat monotonous, because it's all the time on the same subject matter that each group does, it's still working better than just sitting there. For instance, something like biology is a combination of giving a lecture and [the teacher] writing notes on the board and asking many questions. That I like, 'cause it's informative and we can also find out what we didn't understand . . . I think most classes are like that, a combination of giving a lesson and asking many questions. Most of the teaching's that . . . For instance, they'll write what's called the 'Aim' on the board. They'll say, "What does so and so mean?" And, ultimately, at the end of the lesson you should know the answer to that major question.



And then some teachers...they, like, dictate...they just speak and no one says anything. And that is so ineffective, at least for me. And then there's teachers who rely almost only on group work...I can't remember almost any other kind of method.

(3) The teacher's presence. When they talk about whether they prefer the teacher to be the central actor in the classroom or if they would rather the teacher assume a less directive mode of teaching and allow students to be more active, students give varied responses.

There are students who favor traditional teaching that places sole authority in the classroom with the teacher and does not require or expect much student initiative. Frank represents this attitude when he says that

Teachers ... don't know everything, and they also make mistakes. But you get the impression that teachers know what they're talking about because ... they're the teacher, they've gone through school, they've gone to teaching school, and ... you think they know more than you do.

Jackie, too, is typical of students who prefer taking direction from teachers whose authority they do not question:

I think I rely very much on the teacher. I think it's very important to direct us well. I mean, having teachers rely on us teaching ourselves . . . never works. You need someone who's very much there, who sets us . . . in the right path.

Both Frank and Jackie see teachers as providers of knowledge and as having the authority to guide or structure the class in a "right" way. A road map and travel itinerary provided by someone who has been along the route numerous times is preferable to the messy uncertainty of finding one's way, singly or with a group of pecha across new terrain.

More common among students in the interview cohort is the general feeling that some kind of balance between teacher predominance and student participation is necessary in classes.

Jennifer likes "for everyone to be active":

Not for the students to sit down and do nothing while the teacher does everything, because that can take a lot out of you. All you do is talk and talk and talk — you get no feedback. It's negative, you know, it's negative response. But if the teacher is active and the students are active, then there's something coming out of the class, you know. That's now I like it. For everyone to participate.

Yolanda feels that it is the teacher's responsibility to generate interest, and the student activity will follow:



You have to get everybody interested in the subject, you know. After the discussion, you know, is going on then most of them just tend to be quiet and listen . . . and he will interrupt something to tell them . . . but most of the time . . . if the teacher is very active he will get everybody to talk about it and feel interested, you know, everybody's talking about it, he should be part of the discussion, he should be active.

Students distinguish among teaching purposes and the level of appropriate teacher direction. That is, they are in favor of teachers being the central classroom actor when the goal of the class is to impart knowledge or information. Such students are comfortable with teachers lecturing or otherwise dominating classes when ic is clear that the teachers have information to give to students. However, when the purpose of the class is for students to construct knowledge for themselves by grappling with issues, ideas, opinions, or feelings through discussion they feel that teachers should recede into the background and allow students to come to the fore. Ignacia sums up this sophisticated attitude nicely:

In chemistry, like science and math classes, they should be the central and the most important or active or whatever person in the class because they're the ones who really know most of it, but in something like sociology or psychology or social studies or English when you're discussing literature, and many students may think, "Well, all he's saying is this and that," then I think it should be a much more interactive thing and they should become part of us instead of standing there and telling us.

Marian echoes this idea from the opposite direction:

I (like) the teacher to be more in the background and the students to come forward, depending on the kind of class it is. Sometimes the teacher may know more than the students, you know, and if we just go, you know, in groups, like, with all the students and leave the teacher out, then what are we supposed to learn? I mean, it depends on the kinda class. But if it's in a hygiene class where . . . in a circle within teenagers we talk about certain is sues that happen that . . . to you, you know, in the adolescence . . . it's, like, we want the teacher to don't talk so much because, you know, we wanna discuss what we think about, you know, certain issues in life.

Marian is keenly aware that even in student-centered discussions teachers may have something to contribute. Still, she prefers that for some discussions students not be dominated by teachers. She goes on:

And then the teacher could jump in and say, "Well, when I was, you know, when I was 18 dadadadada," stuff like that . . . we shouldn't let the teacher always in the back, you know, teachers could be within -- how do you say? -- we shouldn't isolate the teacher. The teacher should be within. But it's, like, not always the teacher talking, it's not always the teacher, teacher, teacher like I was telling you about the English teacher who talks a lot, you know. It shouldn't be like that. It should be equal. Yeah, equal.



Mei Mei adds the sense of students needing to feel included as co-creators in the classroom construction of knowledge:

Sometimes it would be more fascinating for the teacher to do the work and sometimes it would be also beneficial and good for the students to get involved because they would see that I'm important, you know, just I'm important and I'm not gonna sit there, just sit there, and come into the classroom and expect myself to take notes, you know. And sometimes it adds more fun to it.

Students are aware of key strategies teachers use in classrooms, such as being verbal, using lots of examples, giving homework, and having students take notes that enhance their learning. Frank says that effective teachers

show examples . . . [they] use a lotta words, they write on the chalkboard. They either give examples by picture or examples in words showing me what they're actually teaching me.

For Jennifer, it is teachers who have her take notes who strike her as doing something to make learning effective for her.

In my AP class... we don't take notes at all. We just sit around and she will assign homework for us, then the next day we will come and discuss what we what we wrote and what we read, and that helps as well, 'cause we're able to take notes on what other people are saying and stuff like that. Now in my other class, I have economics, which I'm not doing that good in (laughs), but he writes a lot of notes...

Ignacia, on the one hand, grudgingly accepts that there is some value to the work teachers give:

What they do is give you work. They think by you doing, repeating it, maybe math, it might work, if you do the math every night and it's the same thing then it might help you 'cause you get used to doing it.

Yet she feels that teachers can give too much work, over do what to her is helpful in manageable quantities:

It's kinda too much . . . Because in every class if you have English, social studies, then you have math, and then you have science there's a lot of reading in one night. And so if you have to read eleven pages in English, and then five or six pages in biology, and then . . more pages in math and sociology [and] social studies, it becomes a lot and it becomes too much for one night.

Jennifer sees teachers as being "there to guide you, to help you grasp the materials better." But other students placed more emphasis on attitudes and ways teachers relate to students. Jackie, for example, feels that teachers make learning effective when students sense that teachers truly enjoy their work: "When you feel that a teacher enjoys what they're doing, they enjoy teaching



themselves, I find that really rubs off on the kids, 'cause I've experienced that." She says that teachers show they enjoy their work

if they're enthusiastic . . . if they are lively, if they're not, you know, just giving a lesson and visibly not interested. Like they said it a million times . . . if they lack a sense of humor and very much interest, then you see it.

Marian appreciates when teachers create an environment in which students speak to each other and the teacher's role is minimized. Teacher lecturing is clearly not her favorite class activity:

The way teachers teach is, like, totally whacked, I don't know. My school is an academic comprehensive school, but it's like the teachers're in the front and they just blab around and blab around, talk and talk . . . It's, like, the regular way of teaching, you know. The teacher's in the front and she just - he or she - just lectures . . .

She much prefers when class is structured around student involvement through discussion, project work, and peer interaction:

I had some classes that were fun, like the one I'm in now, peer coaching, this teacher is, like, totally cool. It's the best class I've ever been in, 'cause it's so -- how do you say? -- it's not like the usual class. I mean, we sit in a circle and we just talk and talk about things that have been going on and, you know, what can we do to like coach some classes that we're coaching now, and we do projects with three or four students and work on our research papers and correct each other's drafts and stuff like that . . .

Ideally for Marian the teacher is a participating, contributing actor in the classroom drama but not the spotlighted star. She organizes discussion, keeps it going, throws in her comments but does not dominate students:

She helps us. you know, like, she gives us ideas to coach this class and to be better observers and we just discuss things within each other. She sits within the circle and we just discuss stuff that's been going on, what she thinks is good and what she thinks is, you know, I mean, what's been going on so well . . . She picks students to discuss what they . . . she doesn't pick 'em. the students just raise their hand. But she listens and she sometimes makes a suggestion on what she might think a student is saying and she never leads the discussion, never.

(4) The teacher's personality as a factor in learning. Students in this study see the teacher's personality as perhaps the key element in the classroom. Openness, authenticity, humor, fairness, patience, a real interest in students as people and a willingness to listen to them are characteristics students appreciate in teachers that they identify as contributing to effective teaching and learning. They want to know that teachers are genuinely interested in and engaged with their work rather than simply doing a job that has no more intrinsic value for them than



would a job on an auto assembly line. They want to be validated by teachers as something more than the raw material of their work day.

Time and again students stress that the personality of the teacher is crucial to their learning. As Jackie says, "It's very important, very important. A personality of the teacher can make a subject you hate very fun."

Mei Mei speaks at length on this point. For her, teachers need to care about students both as students in school and as adolescents growing up in a sometimes confusing world. What she seems to be getting at is that teachers who care about the whole student are those whom students like and trust and, therefore, are willing to meet on the common ground of the classroom.

[W]hat I've found, me and some of my friends and fellow classmates, is that we tend to do much better with teachers that have a set personality or sensitivity for students' private lives and how they do in school. And their dedication to their work. Ummm so that they don't just leave you behind, they wouldn't just, like, not care about you after teaching a class, you know, but after it's ended, "Okay, you go ahead, go ahead and do your work but don't bother me again." I think that would be very hard for a student to learn. But rather the teacher that is more sensitive and friendly and talkative that we can ask them questions about the class work and maybe questions that we have in our mind as a growing adolescent ummm it would benefit a lot for both student and the teacher because then the teacher will find out what the students need to work on. Acting more in an informal way than in the class where they're just gonna give you a question like: "Oh, what is this today? You don't understand the class? You know, ask me now." But rather they would ask you as a friend to a friend talking. I think that teacher would get a better perspective and better view about what the student might be afraid to ask in class but does need to work on. And also the students themselves would find it easier to do well in the class because they would have a chance . . . to ask questions that they're afraid to ask them in a class because they might feel that, "Oh, I must be the only one that doesn't understand the question and if I ask the question I might be posed as 'a coward. a dumb student," quote unquote. Ummm that's why I think it's very important to see how the teacher's personality is, what they teach . . .

For Jennifer, it is the humor of her economics teacher that she recalls

makes learning more fun for you, even though you may not like the subject but you would like the fact that he's funny and you'd want to come just to listen to what he has to say and maybe put your mind to what he's talking about.

Jackie remembers a teacher who was "very fair . . . very cooperative. She would listen to you. She was patient."

Students are very concerned that teachers enjoy their work. They want teachers to be engaged in the work of teaching as something more than just a job. As Frank says.



Turley/ AERA 1994 / 3/94 draft

teachers should enjoy teaching, teachers shouldn't just be there to say, "Oh, I'm the teacher just for the pay, the hell with it, I just want to get out of this job and find something else." They should work because they want to . . . they should not be a teacher because a particular pay could be high, or low. They should work because it's a career, a job, something that they feel very strongly about. They want to educate young minds, they want to build them up, they want to have a good feeling, they want to have the feeling of taking their knowledge and passing it to someone else's knowledge, passing it to someone else so they can obtain the same knowledge the teacher knows.

Students are inspired by teachers who are, in Jackie's words, ".. so into it, I mean she was lost in it, so you could see how much she enjoyed it. And I felt that." They are turned off by teachers who teach simply because it's a job and have no interest in their work or their students. Ignacia captures this feeling when she says that

a lot of teachers don't like their work . . . it's, like, a drudge to go in there . . . you make it worse on the students, because, you know, if I see a teacher who doesn't like it I'm going to be, like, well, you know, "What is he doing here?" And I probably won't pay attention.

Ling echoes this feeling that students have for teachers who do not enjoy their work when she says that "... even though they're frustrated, they shouldn't show it at all... you don't need this kind of teacher in school." Implicit in these remarks is the sense that they as students and people are devalued if teachers think of teaching as only a job. If teaching is merely work, students are hardly more than products to be turned out with little care and scant interest. If there is no joy and dedication to teaching for teachers, there can be no corresponding joy and interest in learning for students.

Thus, students appreciate the human side of teachers. "If they're pretty nice and they treat you like a human being, you know, they want to know what your opinion is on something and how you're doing in the class, then it makes it easier for you." says Ignacia. And this care must extend beyond school for Yolanda:

I have some, you know, very outgoing teachers . . . and they're very nice. Even if you see them in the street, you know, you be, like, "Oh, you know, I read this book!" I had this teacher, she always used to tell us, "Read the newspaper," and [when] I always see her on the street I be, like, "Oh, look, I'm reading the newspaper." As for government class -- I hate the class, it's so boring -- but I like the teacher and I seem to get, like, even though I'm getting 75s, I seem to do the work and, you know, read about, I dunno, like Thomas, whatever his name is? Ummm Clarence Thomas, oh my God! We were talking about that for years, and it was boring but I learned, you know, I, like, read it and . . . because she was really nice . . . she's a good teacher.



Perhaps the most salient characteristic of effective teachers that impresses students is the quality of caring. Both explicitly and implicitly, caring underlies all the remarks these students make about their teachers, coloring everything—at effective teachers do with a personal touch that is too often missing from schools. Students appreciate caring and concerned teachers in several ways. Understanding students, taking time for them, being non-judgmental, breaking down barries between students and teachers, concern for making class interesting and fun are qualities of good teachers mentioned by several students. This is what Marian is getting at when she speaks of good teachers "comprehending" students:

A good teacher is one who comprehends a student, who doesn't judge a student, who listens to the student's needs and his problems, who takes time off and helps him or her. A teacher who doesn't isolate herself as being, you know, like, "the" teacher and you have "the" student, that she can interact with the students and not, you know, like, be superior, you know.

(5) Students prefer whole class and individual methods to forms of group work. When talking about their preferences for working individually, in a whole-class setting, or in a group, group work emerges as the least favorite arrangement for these students. They speak in a sophisticated way that indicates they are well aware that each of the three grouping configurations has its own value and efficacy. Says Jennifer:

When you work by yourself there's no one to really influence you, so . . . you do your own ideas and that's it. But when you work in a small group, you have five or more people to add to it, which can be very exciting in some ways and very hurtful in others, 'cause maybe you want to do something and the group decides they don't want to do it. So it works both ways. In a large group, you have more opinions, more ideas, and more to contribute to the class as well. So, it depends. I basically like them all.

Ignacia makes a distinction predicated on the type of task involved:

If you're doing research, I'd rather much do it on my own. I wouldn't trust it, like, to other people because you don't know them. But if you're discussing something . . . if you're just, like, trying to figure out what something is, like a work of art or a work of literature, then it's much better in a whole group.

For the most part this group of students prefers either whole-class or individual work to working in groups. Ignacia reflects this attitude in her fear of being in an unproductive group:

But in groups, you get lost. I mean, as long as you have the whole group you're gonna have at least people that are interested in it, talking about it, but in the little groups you might get stuck with the class clown or something, so it's not very productive when you're on that side of it.



Turley/ AERA 1994 / 3/94 draft

Marian, too, is wary of groups and prefers whole-class situations in which there are more students to draw on:

I prefer a class situation because we get to listen to what everybody has to say and it brings more -- how can I say? -- more spirit within the class. If I was to work alone, it would be hard. But it depends -- if we have a project. I mean, I like to work on my own sometimes . . . But as far as a group, a little group, it depends.

Students speak favorab, about working individually. They point out advantages such as when working alone they do not have to rely on anyone else as well as the personal satisfaction they get when doing a piece of work individually. Ling dislikes group work because she seems to end up being the group's secretary:

I prefer individual and as a class. As a group, everybody gets lazy and they're not doing anything and you end up writing everything. You know, I don't want to be the secretary. But as an individual you could write, and then you could read more, you could find out research on your own. You're just depending on yourself, and see how much ability you have. And as a class... you could do this question, answer this question, and then, maybe there's like 30 questions on the blackboard and if you're gonna have a class discussion, each one should take one question and then maybe someone else wants to add something to it, or everybody has to speak up by going in order... But, like, group discussion, I never find it, you know, effective.

Mei Mei prefers working individually because of the challenge of personal accomplishment:

I prefer working alone, 'cause I find it easier when I'm thinking and sometimes it would be a lot of fun, because especially when I do something and I don't quite understand the work and I will try and sit down and figure the work myself, and after when I figure things out I would feel a sense of accomplishment. That's why a lot of times I do my studying alone.

Yolanda is frank about her preference for working individually because the grade is then hers alone:

Sometimes if I like the topic and I want to do it and I want to get the good grade for myself, you know, like, I did all this work by myself. Wow, I'm so happy! You know, I like to do it by myself.

She, too, points out that groups often depend on the effort and energy of a single member.

Interestingly, she does not bemoan this as *her* fate but describes how another student became the group's workhorse:

If it's a few people, you know, it tends to, like... the work left (is) for one person that is interested in the subject... 'cause we did a presentation on advertisement, and he was the one who went to the library, and he was the one who did everything, and all the work was for him, but we just did the skit. We did a skit on how the language, you know, how the language in, like, commercials is done for the juicy commercials, we did something, like.



"It's big. Put it in, pop it in your mouth." You don't think about it, but it's all said most of the time. And we just did this skit and he did all the work, all the learning . . . but after he said everything then we learned it too, you know, after . . . and if it's in a whole group, it's okay I think. We tend to do it in a group all the time, most of the time.

Jackie speaks of the positive feeling she gets from immersion in whole class activities, and the antagonisms she's experienced working in groups:

I prefer working as an individe all or as a whole class, not in a group at all. Alone, it's a challenge to myself, to see how much I can accomplish. And to work as a class in the whole is fun because then I forget that I'm sitting there as a student. It's like we're all there as a big family and it's enjoyable, it's just like a gathering. And work in a group, so often you do not get along and either I want to dominate the group or someone wants to dominate, or we just do not agree.

When talking about classroom grouping configurations students are sophisticated enough to recognize that variations in grouping are important and are dependent on factors such as content to be studied and student characteristics. They tend toward a general wariness of group work and a liking for whole class and individual work. Students dislike the breakdown of group cohesion that too often happens as well as being the group member who gets stuck with all the work when the others abdicate responsibility. The intrinsic challenge of working alone, as well as the external rewards of individual effort, are nore important to them than the gains to be had from group work. They also indicate a preference for the synergistic advantages of a whole-class grouping configuration, which they do not see happening in small-group work. Students mention few of the positive features of groupwork that researchers and educators enumerate (Johnson et al. 1991; Cohen 1986). Small-group work offers the hazards of having to participate at a higher level of intensity, perhaps being the group's workhorse, of being grouped with students less diligent than one's self.

Conclusions and Implications.

These students are well aware of differentiated teaching methods and strategies utilized by teachers and are keenly perceptive of what makes for engaging, effective teaching. The monotony of classroom life that Cuban (1992) and Goodlad (1984) have identified as a persistent feature of schools hovers around the conversations of these students. Both explicitly and implicitly in the interviews they express a nagging fear of boredom in the classroom. Even while



they speak of different methods teachers use, they caution against teaching strategies that fail to engage students in an intellectually active way.

Hearing their voices offers a challenge to researchers and teachers to work to remedy what we're frequently reminded does not work well for student learning and to encourage what we're informed does work. These students inform us that effective teaching is the coming together of method, context, student effort, and tea her commitment. Perhaps most important in the mix is a set of teacher characteristics that include knowledge of subject, method and strategy repertoire and delivery skill, commitment to teaching as something other than a job, and a high level of concern and caring for students as people.

The teacher's personality remains the key factor in the classroom from the perspective of these students. Whereas the match of teaching method with content, clear evidence of planning, sequenced teaching, variety, and relevance to life outside school are important for these students' learning, they are not the most important features of classroom life. Teacher characteristics such as openness, sense of humor, fairness, patience, and genuine interest in students that extends beyond the classroom emerge as more important considerations for students than technical considerations revolving around teaching methods or strategies. The "practicalities" of teaching seem to be secondary to teacher attributes as key to effective teaching and learning. Caring, broadly conceived, is the primary characteristic of effective teachers.

Mei Mei sums up very well many of the themes touched upon in various ways by students throughout the interviews. She's reflecting on her perception of an effective teacher:

That would be a teacher that would care and [be] sensitive about, not only my school work, but also [be] interested to get to know me as a person . . . because that would make me feel [a] sense [of] importance [as] a student . . . The teacher, once he gets to know you, you would feel, like, a sense of importance, a sense of confidence in yourself. . . . You would feel, like, "Oh, why does this teacher pay special attention to me? Maybe it's something I'm doing right."

I think if a teacher is more sensitive to what I'm doing . . . beside my school work. I think it would also be beneficial . . .

And another thing is that if a teacher... is willing to share their own experiences and [is] always thinking in a positive way. I think that has a great effect on the student.

She's thinking of a particular science teacher in whose class she was in at the time:



Turley/ AERA 1994 / 3/94 draft

This term as a senior . . . [I] took too many difficult classes. I find tremendous pressure. I remember there was one day I was really upset . . . and I talked to my physics teacher and . . . I really like the teacher because not only is he organized when he's teaching, he knows his subject very well . . . He knows what he has to do to [connect with students in the class, and what he has to get in, and how to control the students when they're noisy and when they start to fool around or if they feel a little relaxed.

Also, because he gives me the sense that you should always [be] thinking of [the] positive way, and always look at [the] big picture and don't blow 'hings out of proportion. That's very important, that's one thing that I really learned from him is that you always should look on the bright side . . . because there's [always] a second chance and the way you're doing now, you have to look in the spectrum that your life is, like, a line where the beginning is the first point and the end is the last point, and in between . . . We have to think about: What is the importance of [this] for me if I fail this test right now? You know, would it affect the rest of my life? It won't, obviously it won't. And if you understand that, [then] physics is not that important to me. Why should I give myself that much pressure? While, if I think again, when I think a second time, [then] I'll always have a second chance to do better and try to improve myself the next time. Maybe I'll do better. I might not get a hundred, or high 90, or 85, but at least I'm trying my best and I'm giving the most of my efforts and I'm putting effort into it. That's why I think a teacher who also imposes a student with positive thinking is also very important.

What we hear from students when they speak about teaching and learning has less to do with teaching methods or strategies or specific activities teachers plan for classes than we might think. Rather, students think of personalities, characteristics or attributes -- qualities they would look for in any adult they come into contact with. When they discuss specific teacherly qualities they are concerned with the mechanics of teaching: teachers knowing their subject, evidence of thoughtful planning, using appropriate methods, giving adequate structure and direction. But they are equally, perhaps more, concerned with teachers using humor in the classroom, treating students fairly, motivating students, avoiding boredom, showing tolerance, fostering student ambition, being interested in students' lives outside the classroom. Above all, these students prefer teachers who show care and concern about them as people, not as "students" they happen to know because of their job, but as people with lives and cares and concerns of their own who need connection with teachers on a personal level.

Thus, there remains a continuing dilemma for teachers: matching teaching method with content with student(s), while at the same time attending to the emotional needs of developing adolescents for recognition and inclusion. There are multiple ways of approaching this dilemma, and teachers are going about them every day. As Marian knows, there are teachers who talk and



talk and talk. But as Mei Mei relates, there are teachers who inspire, guide, and truly care about their students. Without discounting Marian's experience in school, my sense from these students is that the way teachers teach isn't "totally whacked," perhaps too often a little off kilter, as students will tell us when provided with a forum, but not irreparably out of line.



References

- Allen, E. A. (1959). Attitudes to school and teachers in a secondary modern school. M.A. (Ed.) Thesis, University of London.
- Bailey, G. D. (1983). <u>Teacher-designed student feedback</u>: A strategy for improving classroom instruction. Washington, DC: National Education Association.
- Brophy, J. E. (1988). Research on teacher effects: Uses and abuses. <u>Elementary School Journal</u>, 89, (1), 3-21.
- Brown, G. M., Kerr, M. M., Zigmond, N., & Harris, A. (1984). What's important for student success in high school? Successful and unsuccessful students discuss school survival skills. High School Journal, 68, 10-17.
- Byrne, D. B., Hattie, J. A., & Fraser, B. J. (1986). Student perceptions of preferred classroom learning environment. <u>Journal of Educational Research</u>, 80, 10-18.
- Cervone, B. T. (1983). Student attitudes toward studying history. Clearing House, 57, 163-166.
- Chiapetta, E. L., Waxman, H. C., & Sethna, G. H. (1990). Student attitudes and perceptions. The Science Teacher, 57, 52-55.
- Cohen, E. G. (1986). <u>Designing groupwork: Strategies for the heterogeneous classroom</u>. New York: Teachers College Press.
- Cohen, L., & Manion, L. (1981). <u>Perspectives on classrooms and schools</u>. London: Holt, Rinehart, & Winston.
- Crist-Witzel, J. (1981) Teachers' utilization of feedback from students. In B. R. Joyce, C. B. Brown & L. Peck (Eds.), <u>Flexibility in teaching: An excursion into the nature of teaching and training</u> (pp.262-277). New York: Longman.
- Cuban, L. (1992). How teachers taught: Constancy and change in American classrooms, 1890–1980. New York: Teachers College Press.
- Denny, M., & Chennell, F. (1986). Exploring pupils' views and feelings about their school science practicals: use of letter-writing and drawing exercises. <u>Educational Studies</u>, 12, (1), 73-86.
- Evans, K. M. (1962). Sociometry and education. London: Routledge and Kegan Paul.
- Frager, A. M. (1984). Student perceptions of school work and their effect on learning. <u>College Student Journal</u>, 18, 267-272.
- Geeslin, D. H. (1984). A survey of pupil opinion concerning learning for mastery. <u>Education</u>, 105, (2), 147-150.
- Good, T. L. & Brophy, J. E. (1991). <u>Looking in classrooms</u> (5th Ed.). New York: Harper Collins.
- Goodlad, J. (1984). A place called school: Prospects for the future. New York: McGraw-Hill.



- Hofstein, A., Scherz, Z., & Yager, R. E. (1986). What students say about science teaching, science teachers, and science classes in Israel and the U.S.A. <u>Science Education</u>, 70, (1), 21-30.
- Hollis, A. W. (1935). The personal relationship in teaching. M.A. Thesis, University of Birmingham.
- Hoppe, A. A. (1949). Student participation in curriculum improvement. Doctoral dissertation, Teachers College, Columbia University, New York.
- Ingersoll, G. M., & Strigari, A. J. (1983). Adolescent views teacher. Educational Horizons, 61, 183-188.
- Jackson, P. W. (1968, 1990). Life in classrooms. New York: Teachers College Press.
- Johnson, D. W., Johnson, R. T. & Holubec, E. J. (1991). <u>Circles of learning</u>. Edina, MN: Interaction Book Company.
- LaBonty, J., & Danielson, K. E. (1988). Effective teaching: What do kids say? The Clearing House, 61, 394-398.
- Lloyd, B. A., & Lloyd, R. C. (1986). Teaching/learning; The student viewpoint. Reading Horizons, 26, (4), 266-269.
- Maroufi, C. (1989). A study of student attitudes toward traditional and generative models of instruction. Adolescence, 24, (93), 65-72.
- Meighan, R. (1977). The pupil as client: The learner's experience of schooling. <u>Educational</u> <u>Review</u>, 29, 123-135.
- Olson, L., & Moore, M. (1984). Voices from the classroom: Students and teachers speaking out on the quality of teaching in our schools. Oakland, CA: A Report of the Students for Quality Teaching Project, Citizens Policy Center. (ERIC Document Reproduction Service No. ED 252 497)
- Poole, M. E. (1984). The schools adolescents would like. Adolescence, 19, 447-458.
- Smith, J. K., & LaPlante, D. A. (1980). Student and teacher perceptions of fair versus unfair teacher activities and the problem of teacher legitimacy. <u>High School Journal</u>, 64, 108-114.
- Snyder, T. (1984). Student perceptions of their teachers. American Education, 20, (40).
- Sosniak, L. A., & Ethington, C. A. (1988). School quality and high school seniors' attitudes toward academic work. <u>Journal of Educational Research</u>, 82, 113-119.
- Sosniak, L. A., Perlman, C. L., Foster, D. L., & Rice, W. K. (1987). Academic course work in urban high schools: Students' point of view. <u>Urban Education</u>, 21, (4), 390-402.
- Talmage, H., Pascarella, E. T., & Ford, S. (1984). The influence of cooperative learning strategies on teacher practices, student perceptions of the learning environment, and academic achievement. <u>American Educational Research Journal</u>, 21, (1), 163-179.
- Taylor, P.H. (1962). Children's evaluations of the characteristics of the good teacher. <u>British Journal of Educational Psychology</u>, 32, 258-266.



Wagenaar, T. C. (1981). High school seniors' view of themselves and their schools. Phi Delta Kappan, 63, 29-32.

Weinstein, R. (1982). Student perceptions of schooling. Paper presented at the NIE Conference on Research on Teaching, Warrenton, VA. (ERIC Document Reproduction Service No. ED 221 533)

Wilson, P. (1981). Practice of teaching: What pupils think. Educational Research, 23, 110-118.

