

WHOLE SCHOOLING RESEARCH PROJECT

VI.3 INSTRUCTION

Toward Authentic, Multi-level Instruction

The Whole Schooling framework has posited the hypothesis that authentic, multi-level instructional techniques facilitate effective learning for all students, help build a classroom community, and create an approach to instruction that makes the management of inclusive education easier and more effective. We used this hypothesis as a lens to view interactions within schools and classrooms. In this section we discuss the ways in which classroom teachers dealt with the differing ability levels that they found in their classrooms and draw some beginning guidelines concerning the best inclusive instructional practices we observed.

KEY FINDINGS

A major impediment to effective schooling for all children and youth, and to the inclusion of students with disabilities in general education, is instruction that presumes that all students are, or should be, on 'grade level'. Such instruction insures that the needs of both highly able and students with greater cognitive limitations will not be met.

In schools seeking to be inclusive, educators are trying different strategies to deal with ability differences within the general education classroom: stable ability grouping (within and across classes), adapting curriculum, differentiated instruction, and what we have termed 'authentic multi-level teaching'. Stable ability grouping re-created separation within the classroom. Adapting curriculum, while a move in a better direction, assumes that the existing curricular goals, methods, and outcomes are fixed without regard to student needs and that individualized adaptations must be made.

Observations of teachers who were highly effective when instructing students vastly differing levels of ability led to a different way of thinking about dealing with difference: designing lessons from the beginning that would allow students to work together but at their own level of ability on common projects. Such teaching was always centered on authentic, meaningful tasks rather than direct skills instruction or simulated activities contrived solely for skills instruction.

Combined with strategies to build community in a classroom where students assist, collaborate with, and interact with one another, and specialized support services, from professionals working as a team to assist classroom teachers, authentic multi-level instruction holds great promise for creating classrooms where all children are challenged at their own ability levels while learning to work as a heterogeneous, inclusive community.

APPROACHES TO DIFFERENT ABILITY LEVELS

We identified several strategies teachers use for dealing with differing ability levels among students. Some strategies foster genuinely inclusive teaching, while others, to varying degrees, encourage the separation of children with given ability levels from their peers. Schools as whole varied in the degree to which the various strategies are used, as did individual teachers within schools. We begin with a review of these typical strategies, which can be grouped into six general approaches as illustrated in the Figure VI.3-1.

SCHOOL APPROACHES TO INSTRUCTION

Approaches to Dealing with Differing Abilities and Learning Challenges

Each school involved in the study tended toward a different pattern related to the handling of differing ability levels within the classroom. Despite this, however, patterns varied widely across teachers in every building. Below, we highlight patterns by school and profile differences among teachers in their approaches. As we shall see, instructional patterns are highly related to the way that students with special needs are placed in classes, the configuration of support for teachers and students, and the approach of the school and teacher to building community and responding to behavioral challenges. Most schools in our study used combinations of the strategies we describe below. However, the balance of the use of these strategies gravitated toward the two ends of the continuum: ability grouping at one end and authentic, multi-level teaching with consistently heterogeneous grouping at the other. The following chart illustrates predominant patterns in the schools.

Figure VI.3-1

Approaches to Ability Differences

1. **One size fit all – Segregation.** Teach all at the same level, send those who don't fit to separate classes or schools.
2. **Stable Ability grouping** – clustering students across classes by perceived 'special need' and ability grouping for instruction within a class.
3. **Pull out / pull aside Instruction:** One-on-one help, delivered in a remediation or parallel curriculum mode, often at the back or side of the class.
4. **Adapting curriculum** - Individual adaptations for students for whom the existing curriculum is either too challenging or too easy.
5. **Differentiated instruction.** Instruction designed to have students work at different levels in different groups and on different tasks in the classroom.
6. **Authentic, multi-level teaching:** Designing instruction so that students may function at multiple levels of ability, engaging in authentic learning, receiving support, yet learning in heterogeneous groups and situations.

Table VI.3-1						
	Elementary Schools				High Schools	
	Meadow-view	Hamilton	Evergreen	Armstrong	Rogers	Drummond
Whole group/Segregation					x	
Stable ability grouping		x	X	X	X	x
Pull-out / pull-aside	x	x	X		x	x
Adapting		x	X	x	X	x
Differentiated instruction			x	x		
Authentic, Multi-Level Teaching	X	X	x	x		x

X = Predominate pattern x = Lesser pattern

Meadowview Elementary had the greatest use of authentic multi-level instruction during the first years of this study. Multi-age classes were available in all grades except kindergarten. While teachers varied in their abilities, nevertheless a tour of the building would find a consistent pattern of cooperative, project-based learning, even among the weakest teachers.



At Hamilton Elementary, many teachers throughout the building used engaging, hands-on learning, cooperative learning, and other strategies conducive to multi-level teaching. The innovative teaching staff offered opportunities for students to function at differing levels of ability. However, they also made extensive use of ability grouping and pull-out or pull-aside practices. The building had two special education classes to accommodate the lower academic levels of some students. During the project period, these students were mainstreamed into general

education classes at an increasing rate. However, at the end of the study, these separate classes were still in place. In addition, special education teachers and paraprofessionals were observed working with students at the back or side of classes. The gifted specialist pulled students out of class for individual projects in a separate classroom. The early intervention literacy team used a variation of guided reading that was dependent upon stable ability grouping. In some other situations, we observed ability grouping as well. In addition, district textbooks and teaching materials tended to direct teachers to one level learning.

Evergreen Elementary had wide ranges of teaching practice. Many teachers used engaging, multi-level teaching strategies. One teacher at this school represented truly exemplary practices. Interestingly, she was not identified by the principal as a teacher on whom to focus nor was she allowed to have special education students in her room. Within each grade, students with special education labels were clustered into one class in upper elementary, where a special education teacher would provide support for one half day and a paraprofessional for the other half. This school made important distinctions between adapted and modified curriculum. Adapted curriculum involved minor shifts in the existing curriculum. A modified curriculum essentially was a parallel curriculum and activities in either ability groups or pull-aside supports by a special education teacher or, more often, a paraprofessional.



Armstrong Primary, while one of the most inclusive of all the schools, nevertheless relied on ability grouping, along with some degree of clustering of students across classes, as the prime mode of organizing instruction. Most typically, students would be broken into three or four groups by general ability, with each group led by an adult, typically the general education teacher, specialist (either the

special education teacher, speech therapist, or Title I teacher), and one or more paraprofessionals. Students would engage in various learning activities, often rotating from one center to another. However, in Armstrong there were important exceptions. The speech therapist and a general education teacher had together developed a reading/writing workshop classroom specifically to assist students who needed additional assistance in language development.

Drummond High School was designed from the beginning to encourage interdisciplinary teaming among teachers. Some interdisciplinary work did occur that assisted students in working at different levels. Students seeking advanced placement stayed within general education classes and contracted with teachers for extension work.

Rogers High School was the most traditional school in the core academic courses, so much so that students with mild disabilities did not attend these classes but went to a resource class. Vocational subjects such as horticulture and computer courses, as well as some science and social studies classes were more heterogeneous and tended to use more applied, hands-on learning activities.

Thus, we saw wide mixes of approaches to dealing with ability differences across and within schools. However, each school had a clear culture that influenced all teachers in the school. What did these strategies for dealing with difference look like in concrete practice? We now describe examples of the practices that we observed.

One Size Fit All – Segregation ***Keeping Students On ‘Grade Level’:***

The prevailing approach in general education is teaching as if students do not vary in their academic abilities and conform to a theoretical construct called ‘grade level’. However, we know that children vary dramatically in their ability levels, even discounting children identified as having disabilities. Over the last three years, teachers in schools involved in our research project were asked, “What is the range of abilities of students in your class?” Every teacher stated that students crossed at least five grade levels. A second grade teacher, for example, said, “pre-kindergarten to 5th grade.” Most teachers assessed wider ranges: “First grade through eighth grade reading levels,” said one grade 3-5 multi-age teacher. This means that dealing with variation in ability is far from being a ‘special education’ or ‘inclusion’ issue. Traditionally, children at either end of this continuum have often been removed as the school tries, unsuccessfully, to maintain a ‘one size only’ curriculum. However, even when students labeled “disabled” or “gifted” are removed, a wide range of abilities remains in every general education classroom.

All reading the same text, expected to function at the same level.

Donna and Paul co-teach a third grade class at Evergreen Elementary. Donna is the general education teacher and Paul the special education teacher. They regularly take turns leading lessons. There is also a classroom aide. Students with labels or those who are considered at-risk are clustered into this classroom to take advantage of the co-teaching model. The following experience was recorded on videotape.

I arrived as Paul began a reading lesson. He was telling the class to put everything away; nothing should be left on their desks. Paul says they have two chapters to finish

in Chalk Box Kit. Paul tells class they will popcorn read after they finish the first chapter (popcorn reading is “popping” between readers in the middle of the text; Paul does this by snapping his finger and calling out a new reader – in this case, a table of students). Everyone opens their book to Chapter 8; Paul tells them to put their fingers on the word “when,” he snaps his finger, and the whole class reads together. After they read a page, Paul stops them and asks them a question that they discuss among their table, and then he calls on a table to answer. They repeat this until the chapter is finished.

During this reading lesson, students are required to sit at their desks and read as a group. The teacher has decided for the students that they have to have clean desks in order to read, and also decided their desks were the best physical location for students to read. The students are given virtually no choice in how and what they will learn.

All of the students in the class are reading the same book, yet they cannot all be at the same developmental level in reading and comprehension. The levels of assistance provided by the teachers to the students do not appear varied enough to match the many levels of reading and comprehension in the room, and there is little room for students to help each other with Paul leading the lesson in this manner. When they do popcorn reading, the table called begins reading loudly, but fades fast, and all I can hear is Paul, who reads along with them. They read the last pages out loud, all together. The longer they read, the more the class fades.

Because the students are at many points during the lesson reading aloud as a class, it is easy for those students who are struggling to read to not read at all. When the students are “popcorn” reading with their table groups, Paul’s voice overshadows their voices as he reads with them. Also, reading out loud and together as the students did during this lesson does not allow for students to move along at their own pace, reading and rereading as each student finds necessary, which may prevent the students from fully comprehending the text.

Since the students had little or no choice in what or how they would read, it is suggested that the text read was not based on student interest or developmental reading level at this time. Also, given choices, students may have chosen to read independently, in pairs or triads, or maybe even in larger groups.

She can’t keep up. *She needs to go to special education.*

Marlene is a third grade teacher in an urban school that has stated a commitment to becoming an inclusive school. However, there is tremendous pressure in the district to increase the achievement level of children so that they do better on the state’s standardized test, the MEAP (Michigan Educational Assessment Profile). This fall she has a young student with Down syndrome in her room and she is very frustrated. We talked with her one morning about this situation.

“She just can’t keep up. She can’t read any of the textbooks in my room. She barely reads below first grade level. I don’t have any materials to use with her. She needs to be in a special education room,” Marlene explained in great frustration.

Another teacher asked, “You don’t have any books in your room except those on grade level?” “No I don’t,” said Marlene. “I have thought about talking with the kindergarten teacher but haven’t gotten to it. They won’t buy any books for me and I don’t have the money to spend on books for her.” As we entered her class, indeed, the only written materials in the room are textbooks. We wonder about other children in the room who are at both higher and lower abilities than grade level; we also wonder about the engagement of the children in reading if the only materials they have are textbooks.

Marlene continues. “But that’s not all of it. Her behavior is just awful. She just won’t do anything and gets frustrated and acts out. She also has seizures and won’t take her medication. So we’ve begun to make her wear a helmet so that she won’t hurt herself. Children with behavior problems like that should not be in class.”

As we ask Marlene more details about the behaviors, Marlene indicates that at the first of the semester, her behavior was OK and she got along well with the other students. “When did her problem behaviors start?” we ask. Marlene stops and thinks a bit. “Right after we started requiring her to wear the helmet,” she said.

Marlene was convinced that this child should not be in her class. Yet, possible solutions seemed obvious: obtain reading and other materials at the student’s level and also work with the mother to see if sufficient seizure control can be achieved to allow removal of the helmet. In a school with a culture that demands all children be taught at the same level, even when the evidence is clear that this is not working, making these relatively minor efforts would call into question much of the practice in this teacher’s class and the entire school.

Stable Ability Grouping *Clustering Students Across And Within Classes By Perceived Ability*

The most widespread means of addressing the broad range of abilities represented in every classroom, when it is addressed at all, is subdivision of the class into ability groups. The traditional example is the three-reading-group scenario in place for decades in American schools.



Direct instruction pull-out group for students not at grade level.

There are many reasons why routine reliance on ability grouping works against inclusive education. Most obviously, students with cognitive disabilities routinely are assigned to the “low” group, effectively being re-segregated. Non-disabled students who share their grouping suffer also share the stigma of being labeled “low.” Furthermore, in a classroom that has natural proportions of students with “gifted” and “cognitively or learning disabled” students, the top and bottom groups may simply become miniature versions of previously segregated special programs. This leaves that vast range of abilities in the middle still grouped together. Some teachers respond to this problem by creating more ability groups. This becomes a management

nightmare for the teacher, and students get very little instructional time from the teacher. At the same time, ability grouping greatly decreases opportunities for students to work together and teach each other. Too often, the most interesting assignments and most innovative teaching methods are reserved for the higher groups, again replicating the documented problem that the best teaching practices are often found in segregated gifted programs even though they are at least as useful for other students.

We observed several variations on ability grouping. Interestingly, most schools, aware of the controversy regarding ability grouping, used the term ‘flexible groups’, as a way of cushioning the impact in their own minds. In some classes, ability grouping was, in fact, flexibly determined, shifting from day to day. In others, however, even though the same term was in use, such groups were highly stable and membership criteria were quite clear to all involved.

Three of the four elementary schools used stable ability grouping where students were in the same group at least for several weeks at a time. Armstrong Primary organized a large part of the instructional process around ability groups for guided reading as well as ability-based learning centers. Hamilton Elementary utilized what they called ‘flex groups’ in which a team of adults – a reading recovery teacher and several paraprofessionals – would work in grades 1-3 for 45 minute sessions three times per week, breaking children into ability groups to work on reading skills. Similarly, at Evergreen Elementary School, students within classes were broken into groups and upper elementary students behind grade level walked daily down the hall with the special education teacher for a scripted lesson using phonics-based Direct Instruction materials. The following examples illustrate how stable ability grouping looked in classes.

Opportunities lost. *Children with higher abilities engaged in interesting reading while students with special needs drilled on skills.*

In this 3rd grade class, we see Helen, the general education teacher, a special education teacher, and a paraprofessional. As we enter the room, the kids are all milling around and country music is playing. The teacher explains she does this during 5 minutes of transition time. “Sometimes,” she says, “They do a dance to the music.” The students hear her and quickly form a circle doing a kick dance to the music. Students with and without disabilities are engaged. The teacher explains how she tries to incorporate multiple intelligences into her teaching.

All students with disabilities for that grade are in her class. She has an aide who works in the class in the morning and the special education teacher in the afternoon. Today, however, the paraprofessional and special education teacher are both in the class together. Four children with learning disabilities, two with mental retardation, and one with emotional disturbance labels are in this class of 25 students.



Students share their images of a character in a book while in the classroom other students trace letters in sand or read simple material and answer questions on a worksheet.

Students are seated at tables in a U shape. However, Nathan, a student with mental retardation who is considered to have behavioral challenges and functions at a much lower level, sits at a desk off to the side of the room.

After break time, the teacher announces that it is reading time and the children on cue divide themselves into two ability groups. Nathan is with his paraprofessional in the corner of the room, working on a worksheet. One group is with the special education teacher using Direct Instruction to repeat letters and sounds over and over as she follows a scripted lesson where she is told exactly what to say. One student comments, "I hate school." The other group, clearly with the higher level of ability, is out in the hall where the students are reading a book aloud together with the general education teacher. She has asked them to write a story from the perspective of one of the characters in the story.

Here we see ability grouping and one-to-one special education assistance that creates a classroom culture that clearly separates children based on cognitive or academic ability. Tellingly, this is occurring in a classroom where the teacher is thinking consciously of approaches and strategies aimed at differentiating instruction. Unfortunately, the strategies of ability grouping and one-on-one instruction seem to be at the top of her repertoire. It is clear that the students are well aware of these ability groupings.

The students in the higher group are involved in a very interesting, engaging activity that uses higher orders of thinking. The other students are engaged in various levels of drills on skill instruction. The activity of the higher group, however, had great potential to involve all students at their level of ability, incorporating skills instruction into this engaging activity. This did not happen, however. Rather, the students in the low groups were restricted to skill instruction that had no authentic meaning or purpose. They did not have a chance to see why mastering these skills would even be useful and were excluded for working on higher-order comprehension skills that could have been approached if appropriate methods and materials had been used.

Ability grouping for phonics. *Skills but not meaning.*

Alice is a second grade teacher. The following experience occurred in her class during reading, when the class is divided in to ability groups taught by three different people – the teacher, paraprofessional, and Title I specialist.

The teacher's group is reading a book from the guided reading room. They are doing round-robin reading. The teacher "shushes" the students who aren't supposed to be reading. When a student doesn't know a word, she either tells it to them or helps the child sound it out. When they get to this phrase in the story, she asks them to read it together: "Ha ha, he he, ho ho, hay!" When one student is reading, the others do not appear to be paying attention. Ashley starts to tell a story about something that happened the night before. The teacher puts her hand on her book and says, "Ashley, let's stay on task".

The text chosen by the teacher for the reading group is a piece of writing created for a guided reading series based on levels. That is, each piece of text has been specifically created to fall into a specific level as determined by the publisher, and the teacher fits groups of children into those

different levels based on their abilities. It was not written by an author primarily interested in communicating with his readers. The children did not choose the book they were reading; Alice chose it for them. Their lack of interest is demonstrated by the talking that occurs by the children who are not actively reading at any given moment.

Having the students read using the round-robin reading method does not give them the opportunity to support one another while they read, and may be excruciating to students who are not confident about their reading abilities. It essentially becomes a way for the teacher to hear groups of children read on their own and out loud in a short amount of time, while keeping control of a larger number of students, most of whom are unengaged in the task. It is difficult for anyone to maintain comprehension when listening in this disjointed way, and the word-level support offered by the teacher does not help the children focus on the meaning of the story. Some students may read the story out loud and fluently without comprehending. For these and other reasons, round robin reading has been widely discredited by reading researchers¹, and yet it is still widely used by teachers who do not have a repertoire of more effective strategies.

Pull-out or Pull-aside Instruction

The most traditional method for providing instruction by support staff and specialists in the general education classroom is pulling students out of the class or to the back or side of the room. In some cases, this becomes a special variation on ability grouping if the specialist works with a small group of students. In other cases, one-on-one tutoring may take place. Such an approach is based on the presumption that what struggling students need most is individual attention by an adult.

Out and to the side: *I think they ought to be in a special education classroom.*

Over two years we observed a teacher in a school that had been working quite hard to promote inclusive education among the total staff. There was much discussion, visitations of other schools, and training supported by the principal. In this school, two special education teachers provided full-time support in general education classes. We were quite struck by the dramatic differences in how these two teachers approached their roles. One teacher worked collaboratively with the general education teachers in all her classes, helping to develop lessons in which all students could participate while paying attention to the needs of individual students on her caseload.



Paraprofessional works with child with mental retardation on parallel curriculum while other students work on other projects together in a different part of the room.

¹ e.g., Opitz, M. F. and Rasinski, T. Good-bye Round Robin: 25 Effective Oral Reading Strategies. Portsmouth, NH: Heinemann, 1998.

The other special education teacher, Dave, systematically worked one-on-one or with a small group of two or three children on his caseload, in all cases separating the children from other students and distracting their attention from the overall class activity in the process. One day while talking with a researcher, he said, "I think these students should be in a separate classroom." As we shall see, Dave created his own version of such a separate classroom in the way that he delivered support services. Following are some excerpts from our observations of Dave's work in classes:

Dave pulls a first grade student named Nelson out of class 2 1/2 hours per week to work on very directed phonics using Orton Gillingham approaches. Nelson misses class activities during this time. Nelson is re-entering the room after being with Dave for a 45 minute one on one session. The class has been involved in an activity where they are drawing, writing, and making a book about a story that they read. Nelson sits down and Dave directs him to read a story by himself.

The teacher is having the students develop simple machines using materials she has put on each table in a box. Dave goes to Jason, a student on his caseload labeled as severe learning disabilities but who appears to function at a range of educable mental retardation. Dave is constantly interacting with Jason, talking with him, asking questions, drawing attention and focus away from the teacher, and playing no active role in the whole activity of the class.

We talked with two of the general education teachers being supported by Dave. Both were frustrated, largely because Dave did parallel activities with students off to the side or back of the class, or interrupting the work of the students. The discussion with Delores, a 4th grade teacher was particularly revealing.

Delores has support people come in who include special education (resource), at risk (learning center), speech and language, and bilingual. She expressed frustration because support staff, particularly Dave, do not necessarily bring additional actual teaching activities or resources into the class but rather spend their time 'helping' one specific targeted child, sometimes actually get in the way of the student's learning by intervening when intervention is unnecessary, just to have something to do. As a way of underlining her frustration, Delores said, "I will take students with special needs. Just leave me alone." She stated, "There are just too many [support staff] with no clear roles.

In this conversation, differences in teaching philosophy became apparent. In talking with Delores, I held my hands out and indicated that one hand was 'phonics only' and the other hand was 'whole language' and asked her to locate herself and then the support staff as a whole along this continuum. She said her approach was close to the far end of whole language and that of the support staff closer to phonics only. This school is filled with highly creative and innovative teachers who tend towards more constructivist methods. Consistently, many support staff tend to focus on direct instruction. The 'literacy teams' that come in have a structured program built exclusively upon phonemic awareness and phonics. Dave is far to the extreme in this direction having a very behaviorist, skill-oriented approach to all instruction.

We saw these concerns play out again in a second grade class with a general education teacher named Sharon.

Students are sitting around six tables, 5-6 students per table engaging in 'sponge' activities, fun activities they can select from a basket in the morning as they arrive. During this time, Dave is working with two kids at a separate table. Shortly, the teacher calls all the children to come to the sitting rug area in front of the white board. However, Dave continues to work with these two students even after the teacher has started discussions with the kids.

Later in the morning this pattern continues.

Dave comes back to class with Mary, a child he has taken out. He looks at Bobby, points to him, and motions him to come with him. He leaves the class. Mary sits down outside the circle of children at the back of the group. Sharon is reading a book to the children, showing them the pictures and asking, "What do you think the book is about?" Kids share ideas. Gradually Mary scoots up to join the group. After only about 5 minutes, Dave comes back and peaks in the glass of the door. Getting Mary's attention, he motions for her and she once again leaves the room in the middle of the story.

While support is seen as critical in inclusive education, in these scenarios we have a general education teacher describing such support as interfering with or interrupting the learning process, separating children from one another, creating the potential for stigma and confusion. These negative results appeared especially frequently when general education teachers were using authentic multi-level teaching methods, or more traditional Whole Language approaches, but the support staff devoted themselves entirely to teaching of isolated skills.

Adapting Instruction

Assistance to Adapt a Set Lesson for a Particular Student.

Curriculum adaptation involves changes to a particular component of a lesson based on the individual needs of a child. In curriculum adaptation, the overall lesson itself is taken as a given, so that the goal is to provide individual adaptations that will allow a student to participate at some level. Typically, this occurs when the lesson is at a level that is either lower or higher than the abilities of the student.

Most of the literature on inclusive education centers on adaptations as a central strategy. Adaptations can occur in many different ways: (1) the method by which information is presented; (2) complexity, difficulty, length, or amount of work; (3) evaluation and assessment methods.

One school we studied, following the lead of in-service materials they had acquired, distinguished between adaptations and modifications. For them, adaptations involved relatively minor alterations in the typical curriculum and expectations. For example, students might be expected to be tested on five instead of 10 spelling words each week. In place of traditional print materials, a student might use large print or audiotapes. Instead of producing handwritten work, the student might highlight material in the text or use a word processor to assist with writing.

Modifications, on the other hand, involved what essentially was a parallel curriculum. Utilized for students with greater cognitive limitations, the special education teacher literally organized plastic tubs of materials and activities that the paraprofessional would use with the child at the back or corner of the room. At best, these activities were marginally related to the activities in which the rest of the class was engaged.



Such curriculum adaptations that alter curriculum content, rather than the manner in which students interact with that content, were problematic in our observations. They had the effect of perpetuating the misconception that all the other students in the class are academically identical, with only the student with a disability needing curriculum adjustments. Thus, this approach works against having teachers introduce sufficient planning and flexibility to meet the full range of needs and abilities in any given classroom. Such modifications also made it difficult for

students receiving the adaptations to work with classmates, or even to feel part of the class.

In the schools we studied, adaptations went hand-in-hand with use of ability grouping or pull-out of pull-aside assistance. In both cases, students were simply given work, most often related to the same general topic as the rest of the class, that was at a lower ability level than other students.

Differentiated Instruction

Differentiated instruction is intended to allow students work to work at different levels in pursuit of a common curricular goal. The work of Carol Ann Tomlinson² influential and comes from the foundation of her work with ‘gifted and talented’ students. In the schools we studied, we saw many teachers using strategies that allowed students to function at their own level.

However, we saw few of the particular strategies described in the differentiation literature. Such strategies seek to provide differential tasks and levels of functioning but also often have the following characteristics: (1) use ability grouping, (2) tasks of differing levels are designed by the teacher, and (3) students assignment to the tasks by the teacher, based on the teacher’s evaluation of abilities of the student. In effect, most of what was referred to as “differentiated instruction” was simply a complex form of ability grouping. We began this study with an interest in observing effective practices for dealing with ability differences in heterogeneous, inclusive groupings. Generally, we did not find that “differentiated instruction” fit this description. Instead, practices we observed by selected teachers have led us to develop a concept of Authentic Multi-level Instruction (AMI) that we discuss in the next section.

² Tomlinson, Carol Ann. The Differentiated Classroom: Responding to the Needs of All Learners. Alexandria, VA: Association for Supervision and Curriculum Development, 1999.

Authentic, Multi-Level Teaching
Designing Lessons For Students At Multiple Levels
For Students To Work Together Learning At Their Own Level.

In this study, we gradually identified and gravitated toward the classrooms of selected teachers in each school whose practices seemed to provide exemplars of truly inclusive instruction; that is, instruction where children with dramatically different ability levels learned together, heterogeneously grouped, or involved in individual studies using materials at their own level of challenge. Observing and reflecting on practices we saw in the rooms of these teachers assisted us in gradually conceptualizing what we are now calling Authentic Multi-level Instruction (AMI). A discussion of this discovery process itself may be instructive.

When we began the study, the language we used to describe instructional practices that involved children at multiple levels of ability as "designing for diversity and adapting instruction." This language was based on the idea of Universal Design for Learning: if teachers design their lessons for the full range of student abilities from the beginning, then fewer adaptations will be needed. Over the course of the study, however, we felt that this language was too vague. The words indicated that teachers should design lessons for diversity but there was no indication regarding how this would happen. Gradually, we began to formulate the term, multi-level instruction, influenced by conversations with Paula Kluth of Syracuse University and Celia Oyler of Teacher's College in New York, who were also using this term.



As we shared this concept in one school, Hamilton Elementary, the principal, as well as a number of teachers, was intrigued by the idea. We held discussion groups 3 times during the second year of the project to discuss multi-level teaching. In three other schools, we discussed the idea with individual teachers. One teacher worked with us to articulate the concept and strategies on paper. We developed a paper regarding multi-level teaching that the principal of one school shared with her staff, using it to focus discussion about their move towards the inclusion of some students still attending a self-contained special education classroom. Finally, during the last year of the study, we formed an Authentic Multi-level Teaching Work Group composed of some 15 teachers largely drawn from the study schools. This group has met for the last year and has worked to articulate a clearer understanding of Authentic Multi-level Instruction, and its relationship with other practices, particularly differentiated instruction. These interactions have provided significant opportunity for reflective analysis of the practices we saw in schools. Below, we share the outcomes of this work to date in articulating an understanding of best practices for teaching that best support truly inclusive classrooms.

Principles of Authentic Multi-level Instruction

In the schools we studied, the more that teachers used authentic instructional strategies and intentionally built into these multi-level learning opportunities, the richer the learning environment, the greater progress of students, the fewer specialized adaptations were needed,

and the more time and energy the teacher had for supporting student learning. Multi-level teaching involves designing instruction in such a way that the individual needs of all students are

Figure VI.3-2: Principles of Authentic, Multi-level Instruction

1. Authentic learning.
2. Multiple levels.
3. Scaffolding.
4. Higher order thinking.
5. Inclusive, heterogeneous grouping.
6. Integrated skill learning.
7. Focus on meaning and function.
8. Multi-modal.
9. Building on the strengths of children.
10. Fostering respect.
11. Student interests, choices, power, and voice.
12. Collaborative learning.
13. Reflection.
14. Growth and effort-based evaluation.

taken into account. This is a very different way of thinking than trying to build a lesson from the bottom up by starting with discrete target skills and then crafting a lesson around such skills. AMI starts from a holistic, global view and incorporates specific needs.

Traditional lesson planning starts from specifics and tries to build an overall framework. While starting from specifics is possible, most people get lost in the overwhelming plethora of details in such an approach. The most effective teachers we observed designed many lessons that allowed students to start at varying levels of complexity and academic difficulty, find a place in the activity, get help and support to go to the next level from both classmates and adults, direct their own learning with support, utilize multiple modalities of input and expression, and go as deep and far as their interests, motivation, and abilities allowed

them. We have begun to outline some principles and practices for authentic, multi-level teaching that supports students with a wide range of abilities learning well together, heterogeneously grouped within and across classrooms which we describe below.

Authentic learning.

Authentic learning is foremost and central. Rather than involve students in ‘school work’, authentic teaching is grounded in tasks that serve real purposes. For example, rather than writing practice letters to no one in particular, authentic writing involves students in such tasks as writing to a company to tell them how they might improve their product, thinking about and substantiating suggestions; writing a letter to parents on Mother’s and Father’s Day; or writing a poem about what happened last evening to share with the class in poetry reading time and perhaps publish in a class book.

Authenticity is the key to genuine learning. Motivation in the leaning process is critical and authentic learning connects what occurs in school to students’ lives. If the task makes sense and has value to them, students will work hard. If the only reason to do a task is that some authority demands it, intrinsic motivation goes down. Student focus on performance measures like grades and prizes, rather than on acquiring knowledge or a sense of competence.

Authentic tasks provide a context where specific skills – from basic math skills to the ability to spell or use correct grammar – are learned. Students see the utility of a particular skill when they need it to accomplish a larger task effectively. For example, when students read one another’s work, they begin to understand why spelling is important. Finally, authentic tasks establish ‘space’ for students to work and grow at their own levels of ability. All authentic tasks allow multiple levels of output; all complex tasks provide multiple roles that support contributions at differing levels.



VI.3-2: Bloom’s Taxonomy of Educational Outcomes

Competence	Skills Demonstrated
Evaluation (Higher order)	Presenting and defending opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria.
Synthesis	Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions.
Analysis	Examining and breaking information into parts by identifying motives or causes; making inferences and finding evidence to support generalizations.
Application	Solving problems by applying acquired knowledge, facts, techniques, and rules in a different way.
Comprehension	Demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas.
Knowledge (Lower Order)	Recalls facts, terms, basic concepts, and answers.

Adapted from Bloom (1956) and Fowler (1996).

support, and challenge one another as part of building community in their classroom. Specialists assist students and the general education teacher in the design of multi-level lessons and providing needed specific skill instruction, support, and assistance within the context of completing the multilevel task.

Multi-level.

By multi-level we mean that students are engaged in learning activities that allow them to function at their level of ability, yet are challenged at their zone of proximal development to continue growing and learning. ‘Just right’ work for all students expected and supported so that teachers push and challenge students who have higher abilities but might settle for lower levels of work in traditional, decontextualized academic tasks.

Scaffolding.

Students are given support and assistance to move from their present level of functioning to the next level. Students are explicitly and systematically taught to help,

Higher-order thinking

In authentic multi-level teaching, teachers seek to involve all students in higher order thinking, in complex learning and projects at the higher end of Bloom's taxonomy³. Interestingly, we find that such higher orders of thinking can be approached at a wide range of abilities and that lower levels of thinking in this taxonomy are easily integrated into tasks and activities designed to encourage higher levels of thinking.



When designing their lessons to elicit higher order thinking, the most effective multi-level teachers we observed targeted the highest ability students first and then insured that students with lower abilities could participate effectively in roles that extended their learning. Framing inquiry questions and assignments for learning in ways that involve students in higher order thinking, but also allows students to approach such projects at vastly differing levels of ability, is an important skill for teachers to learn and practice. However, much of traditional instruction is based on lower level skills. Two contrasting examples are illustrative from our observations:

1. Students will develop definitions of key science terms related to plants (lower level task, makes multi-level instruction difficult).
2. Students will develop a product that demonstrates how plants grow and reproduce (higher level task, allows high degrees of multi-levels of investigation and demonstration of learning.)

In many cases, students with lower abilities might be paired with more able students to work on an activity more complex than they could accomplish alone. In other situations, instruction involved the total class and involved students in discussion, reading, or other activities. While many concepts were beyond the clear understanding of some class members, as all worked together to find valued roles for all, students learned needed skills and absorbed content in unexpected ways. Teachers felt that students with lower abilities benefited from these situations if there was an understanding that students were expected to demonstrate understandings at higher levels, if students genuinely participated, if a culture of valuing each person's understanding at a different level existed, and if this entire experience occurred with reasonable frequency.

For example, several teachers targeted the highest functioning student in the class when they selected materials to read aloud to the total class. However, the teacher also involved the class in a discussion of what the text meant as they read, seeking for deep understanding while simultaneously scaffolding for some students. Such participation allowed students to be part of

³ Bloom, B.S. (Ed.) (1956) Taxonomy of educational objectives: The classification of educational goals: Handbook I, cognitive domain. New York: Toronto: Longmans, Green.
Fowler, Barbara (1996). Bloom's taxonomy and critical thinking: Critical thinking across the curriculum project. Lee's Summit, Missouri: Longview Community College.
<http://www.kcmetro.cc.mo.us/longview/ctac/blooms.htm>

meaningful conversations with peers who acted as mentors and role models. We saw evidence that students with significant learning disabilities and mental retardation picked up higher levels of understanding in these situations.

Inclusive, heterogeneous.

In authentic multi-level teaching, teachers intentionally structured classes so that students of very different abilities, styles, and orientations worked together in small or large groups, or in pairs. These teachers rarely used ability grouping, and when they did, it was in ways that were extremely short-lived, typically not beyond one day.

This contrasted with other models we saw which were based on stable and ongoing ability grouping. The teaching literature is quite clear on the dangers of ability grouping for students at all levels. Interestingly, from guided reading to differentiated instruction, many educational practices now in vogue discuss the dangers of ability grouping and then go on to suggest its use under the title of 'flexible grouping'. While such writers always suggest ongoing shifting of group composition, our experience in schools demonstrated that this was rarely done. In addition,



writers concerned with students labeled gifted and talented often suggest that ability grouping is the only way that the needs of highly able students can be met. This controversy finds its way into numerous individual conversations with teachers and group discussions.

In our study, however, we saw some teachers taking great care to avoid ability grouping, changing composition of any ability based groups on a frequent basis, using grouping by interest, choice, and self-

selection of 'just right' work rather than teacher assignment to minimize negative effects of ability grouping that did occur.

Our Authentic Multi-level Teacher Work Group developed the following guidelines for the use of ability groups.

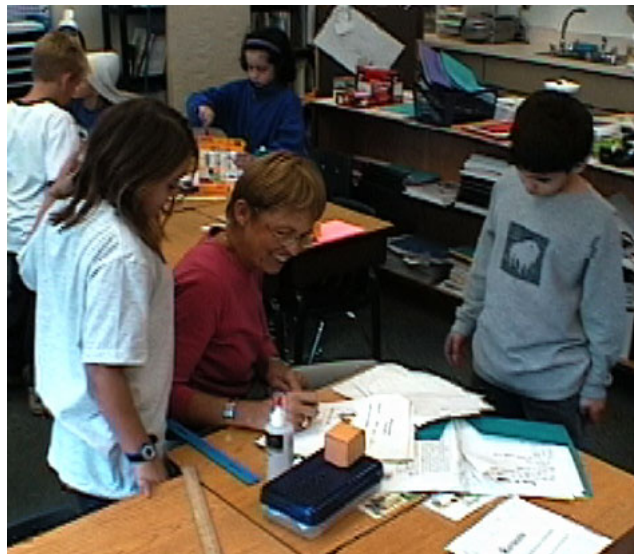
- Groups are not assigned as ongoing, 'stable' ability groups that form a routine.
- When used is based on specific skill needs in common with other students – mini-skill lessons.
- Teachers assure that skill groups have varied compositions from day to day.
- Groups are largely based on choices of children involved – common interests or preferred learning partners and sometimes are driven by requests from one or more children for specific types of assistance (shifting power from teachers to children thus reducing potential of stigma).

Integrated skill learning.

In effective multi-level teaching, skills instruction is integrated into authentic learning activities. Additionally, we saw teachers drawing students aside or conducting whole class, short mini-lessons on specific skills needed to accomplish certain learning tasks. Teachers were careful that groups of students who needed assistance on a specific skill were not grouped on an ongoing basis for skill instruction but that composition of the groups varied.

Focus on meaning and function: *Themes and more.*

Authentic multi-level instruction most centrally focuses on learning, information, skills that have meaning in the lives of students. We observed many strategies toward this end:



- Helping students to make connections between text readings and stories and their own lives,
- Designing projects in which students explore the lives of their parents, families, or neighborhood.
- Involving students in investigating real world issues, whether local or far away, and engaging in dialogue and decision-making,
- Organizing large blocks of time around thematic studies, guiding students in helping to select themes for study, developing webs that broke a particular topic into many related subunits.

Building on the strengths of all children.

In effective multi-level classes, students are celebrated for their strengths, at whatever level they are functioning. In one third grade class, the students were excited on our first day of observation to explain the 'advanced groups' in their class. We feared that we would find ongoing ability grouping instituted. However, we were delighted when students began to explain the various advanced groups – reading, writing, math, humor, dancing, and more. Every student in the room was part of an ‘advanced group’ of their own self-assessment and selection that represented a personal strength.

Multi-modal.

We also saw effective teachers providing many options by which students might both obtain information and demonstrate their learning, using many strategies to respond to diverse learning styles; for example, different colored chalk for each assignment; Friday enrichment groups based

on the seven intelligences; matching tasks to student interests and learning styles. Such multi-modal processes are used flexibly and naturally, rather than assigning students to groups through rigid assessments of particular intelligences, interests or other characteristics.



Student leads a classroom meeting in inclusive 1st grade classroom.

Fostering respect in communicating with children.

We were particularly taken with the way in which effective teachers talked with students. At the minimum, effective teachers did not yell at or belittle students. Even in difficult situations, they talked with students in a respectful way, helped students obtain information and make choices, used their own power while sharing power with students in multiple ways.

Student interests, meaningful choices, power, and voice.

In effective instruction, teachers used many strategies and tools on a minute-by-minute basis to make sure children had their voices heard, and to assure them that their opinions matter and their work is respected. Children have many ways to express their opinions, participate in class discussions, write, act, draw, and express their inner thinking. Teachers help children to develop a ‘voice’ that is uniquely theirs.

Students were offered choices of activities that drew on areas of strength. They were given support, information, encouragement, and guidance in making choices, and were also allowed to say “no.” One teacher told a contrasting story of a high school teacher in another school who said to his class: “I am going to teach and you can stay if you want or leave if not.” This non-choice was an expression of teacher power without any countervailing respect for students.

Collaborative leadership and learning.

In effective Authentic Multi-level Instruction, students provide leadership and mutual assistance to one another in the learning process. Students are explicitly and systematically taught to help, support, and challenge one another as part of building community in their classroom. They are taught how to judge ‘just right work’ and expected to do this work, but are also provided genuine choices and assistance in learning how to take responsibility for choices. In this way, students learn to help each other in learning at their own levels. Regardless of individual ability levels, all students are encouraged, expected by their peers to do work that can be described as “personal best.”

Reflection and learning.

Students in effective classrooms were constantly engaged in reflection on their own learning. Teachers would gather students into groups and ask them questions that called for open-ended, reflective responses, rather than questions calling for a 'right answer'. This occurred individually, in small groups, and as part of whole class instruction. Students were taught to use a critical, reflective stance in all of their work. In our observations, this approach was effective in helping to deepen understanding and enhance memory. Such approaches deepened the authenticity of the task as students often related their studies to their own lives, feelings, opinions, and perspectives.

Growth and effort-based evaluation.

Assessment, evaluation, and grading issues are complex. The best practices that we saw recognized children's accomplishment not solely based on a standard for grade-level work, but with a focus on the effort and progress of individual students. This meant that some students functioning far below grade level were seen as making excellent progress, while some other students functioning well above grade level, were seen as making little progress. Student-led conferences were one excellent way used to deal with demonstration of learning and growth using individual goal setting, portfolios, and alternative assessment.

Teaching Strategies and Authentic Multi-level Instruction (AMI)

We now describe key teaching strategies that we saw based on the principles of Authentic Multi-level Instruction. These descriptions are preliminary and need further development through intensive work with teachers. However, it is clear that Authentic Multi-level Teaching as an overall philosophy and teaching approach is possible: it is being practiced by a reasonable number of exemplary teachers.

Levels Of Learning Goals And Activities

Although this has not yet been done formally, the teachers we studied developed ways of articulating learning goals, activities, and performance measures for students with differing levels of ability. While we saw no teacher engage in planning in a formalized way, these teachers had clear goals for all of their students that took into consideration, among other factors, differing levels of ability. Most teachers started by thinking of goals for their highest ability students, then their lowest ability students, then students in the middle. Sometimes they started with interesting and challenging learning activities first, then identifying or working in specific



5th grade students illustrate a story in an inclusive class.

academic goals. Several teachers used this type of planning when making sure that district curriculum goals and learning objectives for a particular grade level or subject were being thoroughly integrated into their instructional plans.

Learning activities allowed use of differing levels of instructional materials as well as different levels of the demonstration of learning, most often involving (a) work in groups on meaningful tasks taking roles where they can function at different levels of ability or (b) work alone or in pairs on related tasks at differing levels of ability. Most teachers had a general scheme of levels of goals, reflecting the make-up of their individual classrooms. A level one learning goal, designed for students whose abilities are the most limited, would involve the simplest type of learning associated with a concept. A level two goal focuses on the academic skills achievable by most students in the class. A level three goal involves deeper engagement, introducing greater complexity in the activity itself, in the thought processes required for the target performance or outcome, and/or in the breadth or depth of the concept being explored.

The chart below illustrates an example of how one 3-5 multi-age teacher articulated learning goals and activities at three different levels of ability for a single activity. She did not develop a formal chart herself; we constructed the chart, which we reviewed with her, based on observations and conversations. The three levels are illustrative only; teachers might easily have a different number of levels or different characterizations of any given level. However, the chart does illustrate the thinking of many teachers.

Finally, note that in this example, the learning activities do not imply that the students are doing different activities or are working in groups clustered by ability. Rather the activity involves a group working together, with students of differing abilities having roles within the group that match their goals.

Figure VI.3-3: Multiple Levels Of Learning Goals and Activities

Example from “Going to the Extremes” – Jason Project

Learning Goals <i>Learn . . .</i>	Multi-level roles in the learning activity. Do . . .
Level 3. Teamwork and leadership skills Measurement Methods to record multiple data Compare results of data from two different sources Develop an analysis report.	Level 3. Leadership in organizing the team and solving problems. Recording data. Helping the team to compare their results with the scientist. Writing an analysis report.
Level 2. Learn how to work as a team, plant seeds, record growth, and write simple conclusions.	Level 2. Plant seeds Record plant growth Describe conclusions in journal.
Level 1. Help set up materials, work in a team, and do basic recording of the responses of the plant.	Level 1. Help set up materials. Draw picture of plant each day.

This chart illustrates levels of learning goals and activities of an interactive science unit through the Jason Project. The chart also illustrates how different subjects may be tied together.



4th grade inclusive teacher helps student select a 'just right' book to read.

Curriculum and authentic multi-level teaching.

How does a teacher organize instruction so that students with vastly different ability levels are able to work together when teachers are under a great deal of pressure to 'cover' subjects? Teachers at all grade levels are challenged by the need to accommodate the wide ranges of abilities in their classes. In inclusive classrooms, the challenge increases in the middle and high schools because the gap widens between students with mental retardation, for example, and students at the middle to high levels of academic ability.

The exemplary teachers we observed studied their district's curriculum guidelines and organized the wide range of skills around a few authentic themes or topics. For example, one upper elementary, multi-age teacher took the district math curriculum and organized it around four key skill areas. Similarly, this same teacher looked across science, social studies, and literacy guidelines and developed a few thematic topics that linked many of the specific areas of focus. This allowed her instruction to be authentic, allowed students to 'cover' required skills and information, but also organized instruction in such a way that students could work on engaging projects and function at their own levels while learning together.

Authentic multi-level learning strategies.

Open-ended projects with multiple levels of output.

Framing the purpose and requested outputs of learning activities is critical for developing multi-level lessons. The best teachers we observed framed questions clearly but at the same time involved complex levels of thinking. For example:

- Read 'just right' books in reader's workshop using tools to help you strengthen your understanding – web maps, summaries of key ideas, characters, and story line.
- Write a letter to the President of the United States discussing an important issue your class has been discussing.
- Develop a model that shows me how a habitat functions.
- Let's talk about and then write about how chickens develop in an egg and what happens when they hatch? How do chickens operate as a group?

Each of these tasks asks students to respond at a higher level on Bloom's taxonomy. However, multiple levels are possible through varying the difficulty of materials used, and the amount and nature of the work required for the development of products that demonstrate learning.

**Figure VI.3-4: Strategies For
Multi-Level Teaching**

LITERACY	SCIENCE	MATH	SOCIAL STUDIES
Choice of books at different levels.	Experiments with different group roles identified.	Math games	Projects that allow students different roles.
Buddy reading.		Learning groups based on student interest and readiness.	
Read-alouds.	Note-taking by graphic organizers like webbing		Dramatic role-play of social and historical situations.
Individual writing goals.	Informational reading at many levels.	Math projects with multiple types of tasks and levels to choose from.	Write songs, poems, stories, etc. that show learning.
Stick-figure drawing to write a story line		Whole class interest related community projects.	
Individual spelling lists.	Heterogeneous work groups help each other with assignments		Involve local people with interviews, visits, and projects.
Writing poetry		Heterogeneous practice groups	
<input type="checkbox"/> Art to convey meaning. <input type="checkbox"/> Choice of inquiry project at differing ability levels. <input type="checkbox"/> Partial participation in learning activities. <input type="checkbox"/> Cooperative learning groups (with differing levels of activities to contribute to the total group).		<input type="checkbox"/> Support and scaffolding to provide assistance in completing activities not possible independently. <input type="checkbox"/> Student-led portfolio conferences. <input type="checkbox"/> Pair-Share information <input type="checkbox"/> Heterogeneous partners for projects. <input type="checkbox"/> Students choose own topics within broader theme	

Whole group instruction.

In whole group instruction, teachers using AMI once again engage students in higher levels of thinking, rather than relying on the more typical lower level activities. Rather than the traditional ‘bell work’ at the beginning of the day, for example, students are given one of several choices of open-ended work.

In read alouds, important at all ages, the teacher selects materials at the level of higher functioning students. The teacher will have the class discuss the book, predict what is may be about from title, discuss the author, stop and reflect with the class on certain passages, all to deepen understanding of all students and scaffold the understanding of those with lower abilities.

In projects that involve individual or small group work, teachers bring the class together at various points. The project is often discussed first with the whole group and the whole group reconvenes later to share progress and discuss issues that have arisen. Final products may also be shared with the whole class, using a variety of methods. Throughout whole group phases of an activity, the teacher asks probing questions, summarizes and reflects students answers back to them, attending to both cognitive and emotional communications, allowing understanding to build and students to communicate in their own words. In other words, whole group time is key for having both teacher and students providing scaffolding to assist students in making genuine progress.

Individual learning activities.

If projects are individual, students can be both allowed and encouraged to help one another. As students learn that all are to work at 'just right' work, some will challenge higher functioning students to do more while simultaneously providing help and support for students functioning at lower levels of ability. All students may use resources at differing levels and produce products that range dramatically in complexity and sophistication.

Pairs and small groups.

If projects involve pair or group work, the work can be divided so that students functioning at differing levels can take roles that fit their abilities and learning goals. Once again, as students are expected to do 'just right' work and to help each other in the process. If the teacher supports the group process, students themselves can work out their individual roles. When the teacher is careful not to group by ability or cluster students with higher and lower skills in the same groups, she can insure that groups feel neither penalized nor superior in comparison to other groups in the class.

In evaluating student performance in group work, teachers take into account the degree of effort from each individual student, as well as the individual level of growth and understanding that has been demonstrated. Typical grade level standards can be used as benchmarks but individual students are essentially compared to themselves.

Mini-lessons for skill development.

Teachers using AMI identify students who have similar skill needs through observations of their work, and call a group together during workshop time when the class is busy with projects. Sometimes the teacher announces that there will be a mini-lesson on a skill and invites all students who want help in that area to attend. The teacher might then quietly ask others to join, pointing out that she noticed they were struggling in this area and thought they would find the mini-lesson helpful. When the teacher can show a specific place in important work where this skill is needed, the children tend to be interested in learning the designated skill and choose to join the mini-lesson. In this process, they learn the valuable skill of assessing their own work and learning needs. Often more students will choose to join the mini-lesson than anticipated by the teacher. The skill can be anything from choosing 'just right' books to borrowing in subtraction. Any child, from the strongest to those who struggle, could find a particular mini-lesson needed within the context of a given activity or project.



Teacher-student conferencing.

Exemplary teachers we observed conducted individual reading, writing, and spelling conferences during workshop time, as students were working on individual, pair, or group projects. This helped the teacher focus on what students were learning, identify the need for mini-lessons and identify the children who needed them, and allowed time for note-taking about students' progress, strategies, and interests. The teachers had children keep journals in which they recorded their thinking about books and school topics. This writing was used to facilitate discussion groups and provided insight into student learning while helping them think about what they are reading.

Problems and Issues in Authentic Multi-level Teaching.

Too often, teachers rely on practices that insure that some children will be lost or bored. These common practices that insure the failure of instruction for many children in the class include:

- Using textbooks as the center of instruction, rather than trade books and other materials at differing levels of difficulty.
- Using worksheets that involve one-level work at the lower stages of Blooms' taxonomy, typically fill-in-blank or multiple choice questions that stress convergent, low level thinking, rather than using authentic materials and projects with worksheets used to provide open-ended prompts and to focus thinking.
- Grouping students by global assessment of 'ability' rather than insuring that membership in pairs and groups is heterogeneous.
- Relying on one-level demonstrations of learning via tests, particularly short answer tests, rather than allowing and encouraging demonstrations that draw on multiple intelligences using variety of types of products.

Below, we provide some examples of multi-level instruction that occurred in our school observations.

Reading and writing workshop in an intentional classroom community. *Young children learning the language of community and the skills of reading in authentic learning activities.*

Sandra is a grade1-2 multi-age teacher. She works very hard with her students to build a sense of community in the classroom, a place where students make decisions about, and take ownership of, their learning. This is a short, but revealing anecdote from Sandra's class.

It is now time for 'reader's workshop'. She checks the status of the class. "Twombe, you were doing Mr. Brown. Have you done a review, a conference, or a project paper? What are you doing today?" He is going to choose a new book, which she wants to listen to. She sets the timer. "We're waiting on you, Roy." She says to a student at the back door to the classroom, "Blanca, you were doing, This is the Way. Have you done a project paper on it?" Blanca doesn't know and Sandra asks her to go find out. "If you can't find your project paper then you need to do one." She continues



this way through all the kids as they wait for her. As she finishes with each student, he or she leaves and go to work. Some are reading. Some are doing a review using a yellow sheet where they record name of the book, author, summary of what it was about, why they liked it, a 1-5 rating of the book, and sign their name.

Sandra assesses where the children are in the reading workshop process by asking the children what they are doing, and works with the children on an individual basis as is necessary to further her knowledge of their reading development. The children make choices about what they will read, and how they will respond to what they have read. Each child is reading a different book. By allowing the children to make decisions about what they will read, Sandra has given each child the opportunity to work at their own level and their own pace.

During this time Sandra is at her semi-circular desk in the middle of the room conferencing with individual students. She is now with Roy, working on his individual spelling list. There is a hum of noise as the kids are reading aloud to themselves. She uses Roy's daily notebook (a small spiral notebook that they write messages back and forth to each other) and his 'learning log' (a blue type book in which he writes about activities in the class). She looks these over and finds words that he was close to getting correct. These become his spelling words.

This teacher knows what is a "just right" book for each student, what is too easy, and what is too hard. The key to making this work is teaching her students strategies to make appropriate choices. They do not depend on her to decide for them. In reading, they follow the five finger rule. If a student wants to read a book, he first reads the first page. He puts one finger up every time he misses a word. If he misses two to four words, the book is just right. More than four words means the book is too hard right now (maybe later) and missing less than two means the book is too easy. Children learn how to choose work that is challenging and yet lets them feel successful. Once students learn the technique, this method allows them to work at individual levels even though a teacher does not have time to choose for them for every single task. In addition, the students learn a valuable skill. As for specific instruction on strategies and skills, Sandra addresses those in small groups or individual conferences in the context of real work.

Hatching chickens, multi-level teaching, and building community in a first grade class:
How they all come inextricably together.

Shelley is a first grade teacher. She teaches with a very gentle manner. The following observation occurred after the class's chick eggs were lost when the incubator was disturbed and got too warm. The class is now discussing the possibility of getting new eggs.

Shelley talks about hatching eggs and testing them for freshness. She needs to clean the incubator and will invite the attendance taker [classroom job assignment] to help.

Shelley tells the class she can get new eggs today. If she gets chicks, they will hatch over spring break. Or she could just get duck eggs, which would hatch after break. One of the kids' moms has agreed to take the eggs home and handle the hatched chicks if necessary.

Kids decide what to do. Shelley invites kids' opinions. Says they should think more, and then vote. She discusses the length of time they can keep hatched chicks in the classroom before taking them back to the farm. Says that they get too smelly as they get bigger - can maybe keep them two days. Shelley asks two kids to go to the media center to write up the pros and cons of the various choices and to write up their recommendations.

Shelley has taken the problem of the un-hatched eggs and presented to the class to solve, rather than making decisions and solving it herself. She presented all the options to the children, gave them thinking time, and discussed other aspects of keeping the chicks in the room. This is a teachable moment and Shelley has used it to allow students to practice their problem-solving skills. It is very meaningful to the children because the eggs are something they have a very strong interest in. It is a real, concrete problem they are solving. Shelley also gave the task of writing the pros and cons and coming up with recommendations to a few students, rather than making the recommendations herself. Through this discussion, she is giving students ownership over a class decision.

Kids who researched egg problem report. Both propose that Shelley get duck eggs today and chicken eggs next Thursday. This will allow all eggs to hatch after break. A brief digression into the names for mom/dad/baby duck/chicken/goose.

Kids get very wiggly. Shelley proposes a "movement to get the jiggles out of our bodies." She tells kids to make sure all chairs are pushed in for safety - attendance taker does this. Shelley puts on tape. The children move based on what the words to the song tell them to do: walk/gallop/tiptoe/run/skate/hop.

Shelley recognizes the students need to move around, and is willing to interrupt their discussion for a moment in order to meet that need.



She understands the discussion may not progress as needed if the students become increasingly wiggly.

Then return to egg problem. Kids are not persuaded by the reporters and vote to get all the eggs today, even though chicks will hatch over break. They then compromise and agree Shelley should get more eggs on Thursday so they can have some that hatch in the classroom. They also decide to ask the other teacher if they can "borrow" two chicks today or tomorrow so that they can have baby chicks right now. Shelley accepts all the kids' decisions and agrees to get the eggs, talk to the mom, etc.

In the end, the children make a decision through compromise based on their discussions. Shelley participated in the discussion and provided the students with the options, but left the final decision up to the children, and accepted the decision when it was made.

Linking social-emotional learning, staff collaboration, and academic skills in a major, authentic project. *Multi-level learning across the disciplines.*

Julie, a third grade teacher this year, is very excited about a collaborative project that has engaged the students in working together as a team and has provided lots of opportunities for learning at multiple levels. She wanted to help her kids *learn to cooperate and help one another* and spurred this on through preparation for a play about dinosaurs to be presented to the whole school. She wanted to promote desire among the students to be helpful to one another. The project ended up involving multiple collaborations with staff throughout the school.

- ❑ Ruby, the school psychologist, came into the class and did lessons on working together as a team. Ruby and Julie collaborated on this effort.
- ❑ The class decided to do a play about dinosaurs. They read a book about a dinosaur and Julie rewrote this into a play.
- ❑ Students made costumes. Julie sent a note home asking that the students make their own.
- ❑ The librarian helped the students pick out books related to dinosaurs.
- ❑ The art teacher had them do related art projects.
- ❑ The students enlarged shapes using the transparencies and the overhead projector to make props for the play.



Julie made videotapes of the earlier, less organized work, and of later, improved work. She planned to show the tapes to the students to help them see how they had become more skilled in group processes.

Authentic projects in a comfortable community. *Individualized learning for all as just part of the way teaching occurs.*

Dinah is a third grade teacher. She is known as a “very laid-back” teacher who supports student involvement in engaging activities within a supportive classroom community. The following observation of her classroom was made at the end of the school year.



The students are in a group and the teacher has a comfortable conversation with them about what they need to get done in the final 7 days of school. They list memory books, stories, buildings, and fractions. She asks each student where he or she is. She asks kids where they are in making their buildings - they all answer.

Dinah has facilitated the creation of a classroom environment where the students can be and are at different places with their learning, working on activities and projects at their own level and own pace. She gives each student an opportunity to share where they are on their own projects, letting them share their own assessments of themselves.

They start with working on their buildings - post office, Baptist church, cemetery, etc. - constructions of cardboard and wood. They are using tools.

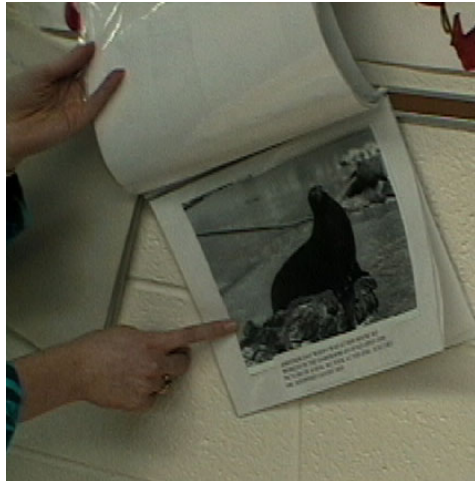
Dinah tells me that they did reports on different historical buildings in Valley View and produced poster boards for each with text and pictures. They then are using cardboard boxes, wood, etc. to construct replicas that they will display in their own town's Historical Fair. She and another third grade teacher are doing this together. They received training via a six weeks training on technology and education offered by the Intermediate School District and were given a kit that has tools of various sorts that the students are using in the class.

The students are working on a project that is both authentic and meaningful. They were given choices in their learning: what historical building in the town they would research and create a physical representation of, how they would present the information they learned, and what materials they would use to create their physical representation of the historic site. Because the sites the students chose were in the city in which most of the students live, this project helped give the students a deeper understand of the history of their city. The students are working on a variety of different sites, demonstrating their ability to choose a site of interest to them. Additionally, the students are using real materials and tools to build their three-dimensional replicas and accompanying the model with poster board presentations.

After the students have completed this project, they will be experts on their chosen historical site, and will be given the opportunity to demonstrate their knowledge at the town's Historical

Fair. This method of demonstrating their knowledge tells both the teacher and families much more about what the children have actually learned than would a pencil and paper test.

We walk in and the kids are all at their desks clustered in groups of four. Dinah is explaining that "tonight is curriculum night, we are going to write something to our



parents or whoever is coming, and they will write back to you." She shows them the basic format of a letter using the overhead projector and has them write: "Dear mom and dad (or mom or dad or grandmother, whoever is coming), Thank you for coming to curriculum night." "When you are done your pencil can be down on your desk," she tells them

Dinah asks who did what correctly. "What are some things you could say about school, your classroom?" "Ruth?"

[Various suggestions are offered.] "I hope you like our class? Did you see the poem on our locker? I hope you find my picture. You think I am

the smartest person in the class?"

Dinah asks, "What are a few more things? Let's think of a few more things. This letter needs to be a little long." They talk more. "How do we end the letter?" They talk options. "You have about 20 minutes to work on your letter. Remember, the longer your letter is the more you will have to write." Dinah circulates through the room helping kids.

Understanding geography through hands-on construction. *Partner work in exploring layers of the earth.*

Melanie is a young third year teacher teaching a grade 3-5 multi-age class. She has two students who, "in another school," would be labeled as emotionally impaired and several who would typically be labeled as learning disabled. However, she only has two children officially identified as special education students, one with a learning disability and another student, whose initial label was trainable mental impairment, but whose improved functioning has shifted his disability category to educable mental impairment. She has been intentionally learning about building community and multi-level teaching, experimenting as she goes. She does lots of project-based work, reading and writing workshop, and other teaching strategies aimed to promote multi-level learning.

Today students are working on a project to explore the layering of the crust of the earth. Students began to get organized to work on an on-going science project about the structure of the earth. Students had previously worked in pairs and made models of the earth with colored modeling clay, one color for the inner core, one for the outer core, and one for the mantle. The crust was blue and green, with blue representing water and green representing landmasses. The models were sitting on a counter and did not have identifying labels.

Melanie went over the instructions for this activity several times and then began holding up models and asking students to come claim their own. She made a large number of management statements during this period, directing specific students to adjust their behavior in specific ways. Nonetheless, the distribution proceeded in an orderly way and there was surprisingly little difficulty in matching the models to student teams.

My mom's mom.

My mom's mom is friendly
and kind.
She helps people all the time.
She loves our family day and
night.
She supports us with all her
might.
When times are tight she
helps us out.
With support and caring from
within her heart.
My mom is like her in so
many ways.
She helps us each and every
day.

She provided a plastic knife to each team and suggested that they either simply slice the model in half, or that they cut out a quarter section, whichever seemed easier to the team. She reminded the students to work gently so as not to squash their globes.

Once teams started to get their models sliced open – not such an easy task – they all seemed to be amazed by the appearance of the cross-section. Many teams wanted to show me their globes, explain the maps on the surface, show how you can put it together so that you can only see the crust and then open it up to reveal the inside, and tell me about the whole activity. Enthusiasm for this project seemed universal.

Rather than simply viewing pictures of the earth's layers, this activity involved students in a concrete way. Kevin, the student labeled cognitively impaired, had worked with a partner in this activity. Students who want to pursue this project further are encouraged to do so.

I want to be in your class because you give cool homework!! *Multi-level homework that is fun for parents and children alike.*

Melanie began her teaching career four years ago, giving the typical worksheets as homework. She decided fairly quickly, however, that this was just busy work and not very helpful for getting to enjoy learning. She thought and thought, and began to experiment with homework projects that would be interesting, provide many options for students, engage them in meaningful thinking, and allow parents and children to work together in enjoyable ways.

We are standing in the hall outside Melanie's classroom, looking at a display of different-looking work of children. We discover that these are homework projects the students have been presenting in class over the last few days. Melanie explains that students do projects over a three week period of time, and then present them in class where they can share and other students can ask questions. She shows us a few of the projects.

In the homework projects, the kids had some choices. "We were learning about heroes and explorers and all that is tied together in a thematic unit in our class. They were to interview a person about that person's hero and to share the information with

someone else, not the person they interviewed, before they presented the project in class. I got a note back from the person with whom they shared. One student did a puppet show; another produced a video (so these are not up on the wall).”

“This little boy interviewed his older brother,” she says, pointing to a poster on the wall. His older brother’s hero is Jackie Robinson so he tried to find similar pictures. For example, Jackie Robinson meeting a famous person and his brother meeting a famous person; Jackie Robinson’s baby picture and his brother’s baby picture. The poster is filled with pictures of the boy’s brother and Jackie Robinson.

“This project was symbolic,” she says, pointing to a poster that has at its top the words: ‘leader, teacher, better person, and friend.’ Symbols related to each of these words are aligned in columns. Each of the words represents a core theme arising from and interview with the student’s mother. Pointing to two pages of handwritten materials, she explains, “These are facts about his mother that he showed us and read at the same time. This is just an amazing amount of writing for this student! I was very proud of him.”

“This is one of my younger students,” says Melanie as she shows a “book with words and beautifully done pictures about her aunt who is a photographer. She showed her how to take and develop pictures. For the project, they took a picture of a sea lion and developed it together,” she explains pointing to a photograph in the child’s book.

“For this child,” she says laughing, “the kids at first thought he was doing it wrong because on the first page he describes *his* hero. However, if we look on we find information about his person’s hero. He actually did more of a project that I assigned!” She shows the draft in handwriting that the student “wrote before he typed it out.” He has pictures of his mother and himself and he told us about each of the pictures.

Two of my students wanted to write a poem. We have been studying this in class. He really wanted to do this so he and his dad sat and thought of a number of rhyming words. When I talked with his dad on the phone he laughed and said that his son would start, not like this word, start over, really trying to get it just right. It was about his mom. Here is the poem.

In schools, a major source of frustration for children, parents, and teachers alike is homework. Somehow, a culture has developed that says that children should be asked to do repetitive practice of routine work at home, all on the same level. Some students breeze through, others struggle for hours, still others simply lose it.

Projects like Melanie’s turn homework into fun that promotes deeper learning, thinking, creativity, and enjoyable activities between children and adults in the home. The teacher is careful not to require such adult



collaboration since children cannot be responsible for adult performance, but she encourages this with her students. She is also careful not to assign a project that will not be allotted a reasonable amount of time for classroom sharing.

Advanced placement: *Individual contracts in high school.*

In one high school in our study, students wishing for advanced placement work take an independent study class. Students select their one project and sign a contract that describes what they will study and accomplish to demonstrate learning. The students self-select to be in this class, so they know they have to be able to be responsible for the work. This makes “advanced placement” available to all students, rather than reserving it only for the most academically able students. Students who make advanced placement contracts may or may not also elect to sit for the formal advanced placement tests.



Horticulture: *Hands on learning for all students together.*

In another high school, the horticulture class provides substantive opportunities for students at differing levels of ability to learn together. The teacher explains “we think of this as a science class-science of plants, with a twist about how we use plants in everyday life and in the job world.” In the class, students do landscaping and operate a flower shop and greenhouse.

Flowers that you wear is topic today.

Students are making corsages for homecoming. The teacher had placed directions on the overhead projector and students were to outline the following: chapter 14, guidelines of design, themes and style, and proportion and scale. They were to divide up, some make corsages to sell, some making bouquets for the homecoming court. Jessica, a student with severe multiple disabilities, joined the class with a student pushing her wheelchair. Another student approached to greet her. Art, the teacher, walked around helping students write outlines as did Bill, the special education co-teacher.

Reading group presentations and student-based grading.

Jennifer, a fifth grade teacher, has students take a story and read it in sections. As students complete a book, they prepare a presentation for the class about it. Each section has basic instructions. At the end of the week, the children have a whole class discussion, using their journals, in which they have recorded information and reactions to the book. They choose books and all do a predictions worksheet. They write down a journal topic related to the story, and a word and what it means.

The class is divided into groups, literature circles, for discussion of the books. Each group has a leader, who is in charge of grading and the management of the group. The leader grades

other students on a numerical scale, 1-3, based on a rubric. Each week, the leader changes so all have the opportunity to lead. Students with lower abilities also lead the group, partnered with another student, and participate fully within the group. Each group has a folder that has a list of comprehension questions that the leader asks the group.

Children write story and illustrate.

In Nora's grade 1-3 multi-age class, students write about topics at their own level, either through illustrations or words. The goal is allowing each child the opportunity to complete with success. She did not explicitly say to children, 'for you I have this objective' but had them write at their level, working at their developmental levels in their writing. This allows students to

- Learn to express personal experience.
- Sequence events
- Work on perfecting individual skills and not expecting the same from all.

Teachers can assess students while they are working in order to guide instruction. This also allows ongoing projects and cross-age tutoring. They teach children to use a writing process involving peer editing. The teacher may assist students in editing, depending on their ability levels. For assessment, the teacher has an "internalized rubric" she tries to get students to also carry in their heads. As students work, she goes around checking to see on where students are in their working. A first grader or lower functioning student may take longer for a simpler product than older or more able students, who work their product through to publishing. Students' work is compiled into a laminated classroom book, which provides authentic purpose for their writing. A student with a severe multiple disabilities worked with a partner, who asked yes/no questions to help her write her own contribution to the book.



Four seasons mask and skit.

A grade 3-5 multi-age teacher had students make masks they would use in a skit they created that illustrated the four seasons. In their skit, they were expected to mention specific items including the tilt of the earth, locations of the sun and moon, and so forth. Groups with intentionally mixed ability levels worked together on this project.

Experimenting for understanding.

One teacher liked to give students experiments of various sorts. Their goal was to discover what works, what does not, and why. Students recorded data in a science log. The experiments

are set up so that all children can succeed. This discovery approach is motivating, allows a place for students with a wide range of abilities, and deepens understanding.

As one example, the class was studying energy and electricity. The teacher gave the students a bag with a battery, light bulb, and wire. Their task was to make the light bulb come on and draw a picture of what worked and what did not. In another situation, the teacher gave students a nail, wire, battery, and battery holder. They were to create an electromagnet and see how many paper clips it held. He had them change one variable, using the opportunity to discuss what a variable is. The goal was to understand the concept of variable and the process of experimentation: problem, experiment, and conclusion. The class had a huge discussion about errors and how some had contradictory results. Was the cause an old battery or other something else?

In this fourth grade class, students function at first grade through eighth grade level. They work as partners in the experiments. Students are helping and teaching one another in this process. As one group makes a discovery, they share with one another group, discussing what is happening, creating new ways to experiment, and discussing outcomes and process with one another. All felt successful and equal partner in what was clear learning community.

Math Journal.

One first grade teacher had students keep math journals where they recorded math work on different topics of interest to them. For example, she would daily have students take the day of the week and make math problems using the numbers. For example, if it is the 27th the student could figure ways to create the number 27 through addition and other calculations. Students enjoyed this task and it allowed them to play with numbers involving very differing levels of ability. She commented that “most students grew a lot from doing work on their own”, such as these math journals, “and not direct instruction”.

Personal scrapbook.

In a third grade class, the teacher had each child good make a book of what is important to them. They added things all year long, whenever they wanted to. The teacher allowed the children to take control and decide what went in the book. The teacher developed a rubric that asked students to explain reasons why they selected certain items. The purposes of this activity were to help students reflect on their personal history, select and share information, and gain insight into self and others. This project was very open-ended. The students had responsibility, with support, to create the scrapbook. They could also take it home, and parents were encouraged to add to the book as well.

This project was fit the authentic and multilevel criteria very well. Some students had two pages of work, a great accomplishment for them, where others had many, many pages of sophisticated text and drawings. Students were able to share what was important to them, helping them to get to know one another. One child produced an amazing book almost completely independently. Some other students required much help and support.



Students write goals for themselves.

Several teachers we observed had students develop their own individual learning goals. In one case, these were developed as part of student-led conferences. Goals could be related to grades, writing, behavior, or other areas. The teacher would go over each report card with each child, explaining why the grade was given. Children then set goals for the next marking

period. Their plan for success was very specific and goals were taken seriously. The goals were then discussed when the next report cards come out. Students assessed whether they failed or succeeded in meeting their goals. Children were taught to make feasible goals for themselves, setting them up for success. The goals went home, as well as staying in their desks and with the teacher. First graders spent significant time talking about the goals and met twice a week in heterogeneous groups to help keep the goals in mind and relate them to ongoing activities. They helped each other in their goals. Beyond promoting multi-level instruction, this technique helped build community, improve social skills, and encourage self-reflection.

Demonstrating Learning.

We observed teachers providing ways for students to demonstrate their knowledge, skills, and understanding at several levels, in many cases providing students choices regarding how they might demonstrate learning. Most assessment was based on the student's production of authentic learning activities: reading real books at his or her own level, producing a range of materials (drawing, building a model, writing a song or reflective poem content, writing real stories, or participating in a student developed play) that demonstrate deep understanding of the content as well as skill in producing the product. All these authentic assessment strategies allow students to demonstrate learning at their own levels without creating different tests for every child in the class

Learning to set limits is a process that every person must be taught. While students choose, they teachers to follow up. Many teachers have systems for tracking student choices for different activities or projects. One teacher showed us a notebook with a tab for each child. In each student's section, a contract would be filled out for each book, writing assignment, or other task.

When teaching using multiple levels, teachers assessed students continually, to determine if students were being challenged at their level of success. When students were making choices that seemed too easy or too hard, the teacher discussed the choices with them. Did they stretch their abilities? Were they finishing too quickly? Given the proper support, students generally appeared to learn to make good choices.

Art and Inclusive Education

A Special Report

Mohammad Ali and other superheroes with collaged fabric clothes guard students' lockers. Nursery rhyme characters with paper plate heads dangle from the ceiling tiles: Rapunzel has long yellow yarn braids; Cinderella wears a cone shaped dress covered in blue satin and Little Red Riding Hood, a corduroy red cape. Framed student masterpieces proudly greet parents in the main hallway. Construction paper portraits announce membership in classrooms.

Like these examples, art is evident in most schools, whether or not the school has a formal art program. Bulletin boards and showcases are likely to show off student artwork that may have been produced in art class or in general education classes. Art is not specifically mentioned in Whole Schooling philosophy. It is implied, however, in the notion of multiple intelligence and instruction for diverse learners, and it is considered essential to the education and development of the "whole" student. Often, in the course of this study, students who had special education labels were reported to be creative and artistic and their art participation gave them joy as well as contributed to a sense of identity as an artist and not just a student with a disability.

All individuals, regardless of ability or talent, can learn and experience enjoyment through participation in the arts. For certain students, like Meadowview first grader Lavico whose IQ was assessed to be 60, art offered a venue outside academic subjects in which he could excel. Sometimes, students who have difficulty in academic subjects, whether or not they have special education labels, can be encouraged to persist in these academic subjects if they have the opportunity to participate in art, a subject in which they may be more comfortable and able. In other cases, students may learn visually or spatially and may benefit from their academic subjects being adapted to rely more heavily on these learning styles. Art classes (traditionally with more open-ended outcome requirements for assignments) have great potential as inclusive settings.

With one exception, the classrooms to which we were directed to observe inclusive teaching did not include art. At Rogers High School, the art program as well as the music program were both considered key classrooms for promoting the participation of students with multiple disabilities (the students in the "severely multiply impaired" classroom), and these classes were listed on the researchers' schedules of classroom observations. Whenever we requested to visit the art rooms in other schools, we were allowed to do so, and usually teachers were eager to show off their hard work. There were two minor exceptions: at Hamilton, the art teacher allowed us to visit but declined to answer any questions about her approach to integrating children with special needs into her classes. In addition, the art teacher at Evergreen Elementary did talk with us over the phone, but the times of our visits were not always good times, she explained, for us to observe the art classes.

Our analysis of classroom observations revealed over 200 references to art in instructional situations, suggesting that art was an area that was visible in the schools. Most of these references had to do with art activities that were taking place within the regular classroom at the time the observations were taking place.

All schools seemed to incorporate art materials or techniques into the curriculum in one or more ways. In all the elementary schools, art was used in various classes as a way to supplement or enhance the lesson, such as in coloring worksheets. In some classes, art had a more central role, as the modality through which the lesson was taught and learned. At Evergreen, for example, a social studies lesson about the core values of the school, consisted of students reading and acting out a scripted skit about “rules.” In another Evergreen class, students were doing literature presentations. They dressed like a character from the books they had been assigned. Among the characters were Ang and Chang, the Siamese twins, hooked together with a belt and hiding beneath a skin-colored fabric. Another social studies example took place at Meadowview where students were learning about communities. Using the book, Me on the Map, students were to draw themselves in their rooms, their house on their street, their street in their neighborhood, etc. Additionally, “calendar math” at Meadowview and other elementary schools integrated concepts common to both art and math such as space, order, and class.

Center time is common in elementary instruction. In one Meadowview second grade class, one center focused on underwater fish. Each child was supposed to select a book on underwater fish, find a picture, and sketch the fish on a separate piece of paper with a pencil. This was to be a sketch for a color painting later on. At another table, there was button math. Here, a kit with buttons was used with a worksheets to sort buttons by type. At another table, children were still working on coloring a worksheet of George Washington Carver. One child who had finished the pencil sketch of the fish, painted the fish at the easel.

At Drummond High School, an English class assignment was to write poetry, and the ideas



Art exhibit of the work of children in the schools of the Whole Schooling Research Project.

for poems were generated through finding magazine pictures that evoked feelings. Another high school example consisted of the dramatic murals that filled Rogers’s halls. The murals started when one student classified as a special education student, wanted to paint a mural. He was allowed to do this and was given credit because he showed interest in this project. The mural was so well received he did a second mural. These murals were critical to this student’s overall success in school. Following these two murals, additional murals were planned. They became central to the art curriculum and served as a way for students with a variety of needs to take part in a project together to benefit the

school. Working on the mural together helped to achieve social skills and facilitated cooperative learning. The art teacher believed the murals also helped to contribute to the sense of community in the school, and that art in general was a way of reaching out to the larger community outside the school.

I reached out with the murals, and if city hall needed anything, I did that. Kiwanas needed a logo once, and the state adopted the logo. The student who worked on that really got a lot of attention.... The art program is respected.

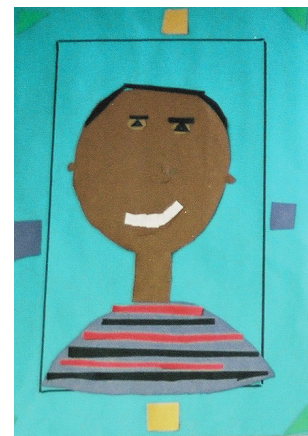
Art teachers in Michigan teach a curriculum based on State Standards for Art Education. These standards include both art technique and art history. Elementary art teachers often attempt to cover an artist or a technique, showing examples or books. Children have a half-hour to work before cleaning up. Often a version of this same lesson is adapted to the different grade levels. Meadowview art teacher Arlene explained her approach to teaching art:

I want them to get exposure to each type of media. I put artists in there and culture in there, but also our school adopted the Jason Program for ocean and space. This year it was Hawaii. I adopted that as part of my curriculum. I also try to find out what teachers are doing in their classrooms. Second graders are working in their curriculum with community, so we made houses. March is reading month so I focused on illustrators. Some appreciate it; some just feel it is their planning time, so it goes both ways.

Some high schools have more than one art teacher, and some students enroll in a block scheduled art class. In one school, assignments were given and students worked at their own pace. They were free to use the computers and books in the art library for ideas. More often than not, they could be seen eating and gossiping during class time. In another high school, teachers often did more of a lecture-presentation or set up still-lives to be painted or drawn. One elementary school in our study, Avery, actually emphasized art in the curriculum, named the art teacher the lead teacher, and offered art “specials” four times a week as well as “Art Centered Education.”

A service-learning project illuminates the benefits of inclusion

One unique example of the use of art in elementary education was an after-school project that developed through a relationship with Tom, then principal at Meadowview. Terry was concerned that his students were destroying the bathrooms. A school-wide “bathroom basics” program to teach proper bathroom etiquette met with limited success. Tom wondered if art students from Wayne State University might come in and paint the walls so that they would look more beautiful and hopefully remedy the situation. A more structured service learning project ultimately materialized in which university students spent a semester working with Meadowview students specially selected by teachers to be ambassadors of the school, and painted murals in the bathrooms. This project was very well received by the teachers, parents, and students. Because the students who participated were nominated based on their need to have individual relationships with adults as demonstrated by their behavior or because of another need to have a “special project” to do, the mural painting was a unique example of how art contributed to the education of the whole student. Tom saw several benefits, beginning with the staff.



I think initially we saw a reaction from the staff that is very typical, we get so used in this society to thinking inside of a box about what's possible and not possible, and the faith that those kids could do it and that it would be wonderful to look at, you could really see the staff divide down the lines about who was a possibility thinker, who really believed in kids, who could support them in their own creative efforts. And once the paintings really began to take shape, there was a lot of surprise on the part of staff, and lots of surprise that some of those kids could be contributors to our school because many of the children in the project are not kids who have opportunities outside of the opportunity you gave them.

The second benefit noted by Tom was that parents were thrilled. Tom noted how several students insisted that their parents look at the bathrooms when they came into the school for other reasons. "We have lots of visitors here because we have interns, and everyone who comes here just couldn't believe it-- the parents think this is just one more thing that makes our school special. Other visitors have just raved about what a wonderful idea it was and how much better the bathrooms look."

"Third," he said, "I monitor the bathrooms, and I am seeing less of a mess. So I think it's making a difference for kids. The kids who did it are very proud and I mentioned their names and we will do something with a school-wide video."



The reports on the children's' behavior during the project were "surprising in some ways because I saw some behaviors from kids who I would not have expected to behave that way."

This was a small group of eleven children and several demonstrated severe behavioral problems during the course of the painting. The mural painting, thus, had an unexpected lesson with regard to inclusion: Tom continued,

I think part of the inclusion model says that these kids will perform better when they have positive peer pressure and in some regards we had children who because of the small group and because of the attention and because the peer pressure was not to perform, who just fell apart. And they were kids who easily in another building could be resource kids, you know that. They could be self-contained kids but they are holding themselves together. I was glad that we had a mix of kids, and didn't have kids that were all behavior problems. I think kids like Arthur and Lavico have just made huge strides. So those are the success stories and that is why inclusion works because ... we see those kids able to do something.

Art teachers' experiences with inclusion

We began to think more about the role of art in inclusion when we heard one of the art teachers remark that students with special needs go to other classes with aides, yet they are "dumped" in art with the art teacher alone. This is the time for the aide to take a break. The specials' classes (usually art, music and physical education) were among the classes most frequently attended by students considered to be "in" special education. Several problems were associated with this practice. If students with special needs were included, the art teacher often was not informed prior to the student attending the class. When it became obvious that the

student had special needs, it was up to the art teacher to find out what the needs were by asking the classroom teacher or special education teacher for more information about the student. Many art teachers did not feel adequately prepared to respond to the learning needs or behavioral problems of students mainstreamed into their classes.

Furthermore, the art teachers began to notice the inequity in terms of how students with special needs were scheduled in art classes compared with how they were scheduled in academic classes. Art teachers noticed that students with special needs attended academic classes with aides, but that the aide did not attend the art class. Moreover, whereas the student might be the lone student classified as having special needs in a homeroom classroom, in art, there might be two or more students with different special needs, “mainstreamed” from a self-contained classroom, all for the art teacher to teach alone. No one bothered to consider what other students were being referred to the same art class. Unfortunately, this sometimes contributed to the feeling of the art teachers that they were not respected by their peers or the administration, as well as a resentment of the students with special needs themselves. Tammy, art teacher at Rogers High School reports,

We get a high percentage of special ed kids in the classes. In my lowest class, there are 11 special ed kids in there, out of 32. So there is a high percentage—They are doing pretty well. Some of the others in the class are in AP classes or will be. Of the special ed kids, some days they can’t remember the assignment, one is visually impaired, some can’t do the classes, the assignments.

Ensuring the participation of the aides is not always the answer to the art teachers’ problems with inclusion. Some aides in fact, were considered by the art teachers to be problematic, whether or not they came to the art class. Some aides did the artwork for the student; others just sat in class and did nothing. Because the art teachers did not feel it was their place to instruct the aides, nothing was said directly to the aides, and the resentment continued.

Sometimes, the art teachers were informed that students with special needs would be attending their classes and they sometimes were invited to attend the IEPs for these students. Yet, more often than not, the IEP was scheduled during the academic teacher’s planning time, in which the students were scheduled to be in the art room. Despite the invitation, the art teacher could not attend the meeting. The logistical arrangements were even more complicated for art teachers who traveled to different schools. The ways in which to work with students with special needs are compounded for art teachers who have numbers of students with special needs at multiple schools.

Not all art teachers had reservations about working with students with special needs. In fact, they seemed to welcome this if their needs (that is, the needs of the art teachers) were better considered. What seemed most problematic was the art teachers’ perception of inequity in how students with special needs were scheduled for art versus the academic classes, (specifically how many students were scheduled in one class at one time, and whether or not an aide should be present). Furthermore, the IEP team might think art was something that would meet the needs of the student, yet the art teacher was not represented in the IEP meeting to be informed about the students’ needs or to have a voice in the placement of this student in the art room.

One high school art teacher seemed to work well with students with a variety of needs and abilities, leading me to suspect that the personality of the art teacher determined in large part how well inclusion was facilitated. This teacher stated:

I loved having special needs students. To me a public school is a cross section of society. If you don't expose students to others different from themselves so they can experience harmony and love for each other, how else will they learn that? How will they be able to get along with others in the world? —There are a lot of kids for whom their nurturing would come out when they were with kids different than themselves. Some of the kids with needs would go to the ones in class who were reclusive—like the girl who used to ram kids with her wheelchair. And that would be what I would want to do, kick them into some action, but she could do it! Society is really screwed up in terms of special needs. Like our building. The principal was not very open. ... It's all in how you take it. I knew when I became an art teacher this is how it would be. Those who bitch and moan that they get dumped on with special needs kids, have other issues. I think, "What am I going to do to make it work?" Accept it and work it out.

Another art teacher echoed these sentiments,

They do a lot of helping each other out, it is really healthy to have different level students in the class and also some of the brand new kids coming in are better than some of the ones who are experienced.

Art teachers and academic teachers alike believed they could easily work with someone with a physical disability or even a learning disability, yet someone with an emotional problem had the potential to disrupt the entire class. One art teacher remarked,

I have had situations where a child was more disabled and walked with a brace. With that I didn't notice any difference, but with the kids who have emotional or behavior problems, obviously that kid takes up all your attention from the rest of the class. In that way, there are 25 kids and you are dealing with two. In one situation, the aide wasn't really an asset.



One art teacher described a situation in which he was verbally encouraged by the principal to work with students with special needs, however, this verbal support was not followed with consistent action--the principal seemed to say one thing and do another. The art teacher recalled scheduling the Alvin Ailey Dancers to perform at the school.

I sent invitations to all the specials teachers. One of the teachers said, "The principal said we weren't invited because of our student. She thought they shouldn't be there in case they made noise, but I thought, so what if they made noise? They came and they loved it! I get angry when more of that doesn't go on.

Another common dilemma had to do with the assigning of grades. According to one art teacher,

As far as grading, I have to make sure their work is based on their stick-to-it-ive-ness, their individual effort. It's hard to touch on all that is in the art education standards.

Another art teacher added:

I just received an entry to the exhibit from a student who has Down syndrome. I thought, "How do I judge that? I can't compare artwork from a student who had Downs. For that student, I put everything up. I'd grade based on effort." I said, "as long as you try and I see you working you will get a B at least, and if you work or try a little harder you'll get an A." There are kids who are really talented who could pull an all-nighter and come up with something fantastic, but I encouraged everyone to work in class and show the consistent effort. I knew the student had Downs because the teacher called me. I had sent out flyers and one went to this school, it's a special school. She asked me if this included her students and I said, "absolutely!" Then my other thought was, "How can I make this fair? Contests are for 'the best.' We've set standards, but what are those standards? Are they standards for each student?"

A third art teacher explained,

Sometimes I have to modify things quite a bit, or if it didn't seem like I needed to, then I need to or if I find out that someone is just taking advantage and I know they are just not trying and they don't deserve a modification. Some of them work very slowly, some have a time barrier that could be difficult, I don't require as many assignments of some of them as I might of the other students. Most of them are appreciative of that. It's none of the other students' business who gets what assignment. I give letter grades, unless someone has requested a pass-fail. Usually that is from some of the more academically oriented kids who are wanting to blow off the class and are taking it as an elective. ...

As for teachers of other subjects, the individual personalities and dispositions of the art teachers seemed to affect how well they were able to include students with special needs. The inclusion of students with special needs in art and other special subject area classes was very common, yet the success with which inclusion occurred was variable. Many art teachers were able to use their positions to structure inclusive environments in their classrooms where students would help each other out, and the range in self-expression was the norm. Other art teachers may be helped to do this when the system for inclusion is more considerate of the needs of the art teacher for additional classroom help or for treating the art teacher like a peer who should be an active member of any IEP team.

Ideally, structured art experiences in schools encourage children to: a) be creative, b) learn more about themselves as unique individuals through exploring their art, c) understand and express feelings that may hinder learning and that may be difficult to express verbally, d) develop sensitivity to and care for others through studying the art of different cultures, and e) learn academic subject matters through hands-on experiences. Structured art experiences in the schools have the potential to achieve the principles of Whole Schooling. As self-expression and self-awareness are fostered in art education and art therapy, individual students should become happier, more fully functioning citizens making positive contributions to society. In making art,

students learn craftsmanship, patience, sharing, and problem solving. They learn about themselves.

CONCLUSION

Perhaps the most significant finding and development from this project, is documentation of the importance of Authentic Multi-level Teaching, beginning to develop an outline of principles and practices. While our original hypothesis, that engaging instruction and designing instruction



for diversity helped guide us in our selection of teachers and our reflection on teaching practices, it was the exemplary work of teachers themselves who daily use what we now call Authentic Multi-level Teaching practices who helped us understand what truly inclusive teaching could be like. The success we saw with students, the mutual respect built, the understanding of individual differences promoted in these classrooms was invigorating and instructive. While we have sketched strategies for authentic multi-level teaching, much needs to be done to investigate this broad approach in greater detail, connecting with professional teaching standards of the national professional educational organizations, creating more detailed examples and guidelines across grade levels and educational disciplines.