How Do We Think about Curriculum?

It is not necessary to discard the subjects that are now taught in the schools, for educational improvement is incremental. What we need to guide incremental change is a forceful idea, an attractive conception, an image of people and the conditions that foster their development. And then we need a small place to begin. (Eisner 1982, 72)

A Curriculum Team at Work

It is 3:15 in the afternoon. The teachers have just said their last good-byes for the day to students and inquiring parents; some have made a phone call, others had to run down to the office to sort some things out with the secretary. Four of the five Middle School teachers expected for the meeting have gathered in Matthew's room with their cups of coffee or glasses of water. Dennis is also hoping to stop by. Cal is the Curriculum Team Leader; he is eager to begin but there's the usual banter about various of the day's incidents and Matthew and Joan are trying to finalize the details of a field trip that they have arranged for next week.

"Well, are we ready to begin?" Cal said, "I've got to leave a little early this afternoon to pick up Sharon, so I'd like to get going."

"All right, Cal," Matthew responded. "I've got copies of the Teaching/Learning Activities for the last two weeks, if we can take a quick look at those. Most of you were here when we were planning them last time, but you'll see that we made some changes along the way. I think I started to lose the kids a bit last week, so I introduced a couple of new activities to try to sharpen the focus. I also sat them down yesterday and gave them a talk on how they're handling the research process, because I think some of them are still a bit disorganized."

"Thanks, Matthew. I think that last point you made is very important. Just because we're committed to documenting our curriculum now, doesn't mean that it has to become hard and fast, inflexible. We have to keep monitoring how the kids are responding, and we have to fine-tune our plans as we go along. Anyway, let's take a couple of minutes to look over this material and then we can talk about it for a while. Then I want to go on to reflect more on the biblical perspective, and how successfully this is coming through. I'm not sure that we've found the 'golden thread' for this unit yet, the biblical orientation that makes the whole thing hang together for the students. I've still got some questions about whether we're not being too dualistic in our approach you know, still working with so-called objective facts to which we're then trying to add Christian values."

The meetings of which this is a sample are part of an ongoing curriculum development project that has been initiated at Mountain City Christian. Together, team members are reviewing previous weeks' teaching and planning for the future, "Their planning had begun at the end of the preceding semester, and built on the resources and programs that had been compiled over the earlier years of the school. They are trying to move gradually from a discipline-based approach, in which teachers take responsibility for planning and teaching their own subjects in isolation from each other, to a more integral model, in which they select an area of creation to study in common and do their planning as a team. They naturally contribute to this planning on the basis of their specialized insights, but they are also consciously trying to think of themselves as teachers of whole persons first, and as teachers of subject areas second.

Curriculum planning is coming to be seen as central to the life of the school. As they work individually and communally, teachers try out ideas of what is going to be an effective learning experience for their students. They are continually making and testing suggestions, trying to get a picture of how kids will respond, and how they might more readily encourage fruitful responses. They have a territory they wish to explore, but their focus is less on covering all the possible content than it is on leading their students through the more signifi-
cant elements of it. And their decisions concerning significance will be guided overall by their main goal, which is to promote biblically-informed discernment and servanthood.

"Let's look ahead a bit to our week's stay in the city," Cal said. "As I see it, we've got a number of objectives. First, we want to broaden the kids' experience. Most of them have been to the city quite a few times now, but usually they go shopping or to the movies or maybe to a football game. We want to open them up to some of the other possibilities the city has to offer. We want to immerse them in some of its riches, so that they come to enjoy some things that are new to them. Why don't we get as many of those ideas as we can on paper first."

The group brainstorms noisily, compiling a list of all the opportunities they can think of. Ballet, the symphony orchestra, art galleries, the architecture, the stock exchange, the produce market, the city and state offices, the university, theater, shelters for the homeless, the newspaper, hospitals, business offices, banks, clubs, the museum, cathedrals, gas and electricity, water supply and sewerage, the various forms of transport people use to get to and around the city...the city in its rich variety. Of course, many of these resources have been used previously by the school, and others provide a focus for activities to come later.

What kind of focus will these teachers adopt for this particular unit?

I think we should try to give kids a sense of the diversity of this place," said Anna, "but that it's still a place with its own identity. What makes Mountain City, Mountain City? Is there a spiritual force that drives the life of the city, or are there competing forces? We want them to see the city as a place where they can meet God, where they can experience his creation, and where they can serve him responsibly. Some of them still have a romantic notion that one can only meet God in the countryside or on a mountain top. I think they need to see that the city can really be a fulfillment of God's purposes, even with the potential for sin that it brings."

Joan suggests that if they divide the class into teams, they could have each team looking at a distinct way in which the city functions. "We could start them off with a number of questions to investigate, and then we could lead them to come up with their own questions. Getting students to pose their own questions is vitally important if they're to develop higher level thinking skills."

"Yes, good idea," Cal said, "but let's not have too narrow a view of the kinds of questions they might ask. Let's not have just fact-finding questions, statistics and budgets and so on. Let's get them to identify the smells of the city, its colors and its sounds. Let's have some of them see what it's like to get around in a wheelchair for a day, or live on thirty cents, or with their eyes covered as if they're blind. We want them to think of ways in which the burdens of city living can be relieved and shalom can be promoted."

"One way we could give them a sense of the diversity of the city would be to start with an architectural tour," Dennis suggests. "The city has buildings representing a number of different periods and styles. It also has accommodation of the very poorest kind to the most salubrious. We could put the kids in a bus and take them from place to place."

I also think that most of these kids are limited in their musical and dramatic experiences," said Cindy. "I think if we took them to a symphony concert, they would have to sit up and take notice of things they don't normally confront."

"I agree," said Cal, "but I think we should also have some input from the students about what would be worth doing before we fill up the whole week with activities that we think are going to be stimulating and challenging."

"And I think we have to make sure we don't just give them a good time," said Joan. "Our purposes are educational, so we have to make sure that we get them to respond in meaningful ways, ways that will really deepen their understanding of how the city works. What kinds of responses to these activities are we going to want from students?"

What Is "Curriculum"?

There are many different conceptions of curriculum and it is impossible to give a definition without taking a stand on the values that are considered most important in schooling. The overall understanding that we have of curriculum -- the way we practice curriculum -- will be crucial in determining the kind of school that we have.

We, have seen in the work of the Mountain City curriculum team, that when teachers are planning curriculum, their focus is on what students will do as much as it is on what they themselves will do. This is necessarily so, because teachers
and learners stand in a complementary, reciprocal relationship to each other. (Although you can have learners with out teachers, you can't have teachers without learners.) Even if teachers have in mind that students will sit quietly and write down everything the teacher says, the focus on the student in the context of this relationship remains central.

The plan that teachers make for the conduct of this relationship is what we take to be the curriculum. We think of it as the instructional program or program of instruction. It has these two main elements what will be taught and how it will be taught -- but they are in constant conjunction with each other. The curriculum is thus at the heart of the school; as a systematic approach to teaching and learning, the curriculum distinguishes the school from all the other contexts in which teaching and learning take place, in the family, the church, businesses, and so on. Everything in the school has to be justified according to its educational mission, whereas in other institutions, the educational function is under the lead of other purposes. In the family, the learning of language or of standards of behavior happens incidentally, in the context of a relationship in which people are committed to each other's full human flourishing. In a business, learning is designed to enhance economic productivity. In the church, learning is focused on the biblical revelation and the growth of a strong worshipping, witnessing community. None of these goals is foreign to the task of the school, but each is secondary to the focus on learning itself. Where these other institutions have purposes that learning is intended to serve, the school is a community intentionally organized for the purpose of learning.

The curriculum should not be thought of as a static, fixed possession, encapsulated in a document in the administrator's office. Rather, it is to be a dynamic plan for teaching and learning (Fowler 1987); it is always in the context of an organically developing relationship between teacher and learner(s). Situated as it is in the interaction between particular people, with all their idiosyncracies, the curriculum is concerned with establishing the boundaries and setting the direction for this relationship. As such, it should be ever responsive to the free-flowing interactions between people.

In this "dynamic plan," we cannot in practice separate the "what" from the "how." We can certainly distinguish between the program and instruction when we think and talk about curriculum, but in the head and in the actions of the teacher, what is taught and how it is taught are two sides of the one coin (Walker and Soltis 1986).

The student experiences this integration even more forcefully. What students learn is determined not only by the content that has been selected but also by the way in which it is taught. For students, what they are explicitly and implicitly expected to do becomes part of the content of their learning. Authoritarian teaching and passive learning, rigidly segmented blocks of learning, testing and grading, the completion of worksheets and homework, the linkage between grading and attendance: practices such as these -- or the alternatives to them -- demonstrate the merging of content and method. "The distinction between the two . . . will not hold once it is seen that the means one employs itself defines the covert structure that embodies a significant part of what it is that students learn" (Eisner 1982, 12).

"The way we think about curriculum has an important impact on the way in which we practice curriculum development and delivery. If we think in terms of the specification of content, what remains is the best way of "packaging" the content for delivery; we are caught from the beginning in an inert view of knowing and a transmission model of education. But if we react against an orientation to content by advocating child-centeredness, we will arrive at a relativistic and individualistic curriculum. Neither a focus on content alone nor on instruction alone will suffice. A curriculum that promotes growth in understanding for responsive discipleship will effectively merge the two.

In the school, we approach teaching and learning systematically. In planning for learning, we select and organize experience for educational purposes. What transforms "experience" from a vague and indeterminate encounter with the world (or "knowledge" from a mere summary of content) into curriculum is this structuring. Curriculum is a selection of learning experiences; the "content" emerges in the very process of planning for teaching. The shape of the curriculum will be determined by the criteria for selecting and organizing experience and the kind of knowledge that it seeks to promote. A fundamental question therefore concerns the nature of these criteria.

**Curriculum as Religious Vision**

**Administrator, K-8:** A key issue for me as we think about the future of Christian schools has to do with instruction. What is it that makes Christian schooling worth the time, effort, and resources? What is it that makes them specifically Christian? What is left when we throw out chapel and devotions and singing? We have to focus on what happens in the classroom, day by day. Teachers are the key element in this.

We should be asking, "What is distinctive about what we are doing?" We have to look at schools as a whole: at what point and in what ways do we provide leadership? What is really important in what we do?
It's not as simple as algebra and sentence parts. Rather, we should be asking, "What are the key concepts of Christian education?" and we should be building our curriculum around these. For example, "Who is my neighbor? What is justice? What is our responsibility as citizens -- not just of the country; but of the kingdom?"

The structuring of curriculum is a whole school concern, to be determined in the light of the school's vision and objectives. It is in the overarching curricular framework that we will detect the religious vision of the school, for it is in such a context that the various details of schooling -- which, when considered in isolation from each other, will be similar in many different school settings -- find their meaning. All schools teach reading, writing, and arithmetic, but it is the relationships between the various elements of the curriculum that are of greatest significance in expressing the school's religious direction. The Christian character of a school cannot be determined by analyzing the percentage of "sacred activities" in which it engages (Wagner 1990) but only by an investigation of the ways in which Scripture directs all the school's activities.

An integrally Christian curriculum cannot be developed by adding a spiritual veneer to so-called factual subject matter. The curriculum must find its coherence throughout as responsiveness to God speaking to us in Christ, creation, and Scripture; even in the study of physics, we need to acknowledge that the regularities we perceive are because of the faithfulness of God and in response to his Word, and not because of some independently-functioning law of gravity.

"I think Joan's right," Dennis said. "We need to give students some context or framework within which they can compare and contrast the various things they see. That's going to require some analyzing and critical thinking. I think we should have them meet with some of our parents and other contacts who work in the city, and interview them about what pressures face Christians in business and other areas. Homes and churches can be pretty safe places, but it's in the city that the really tough issues of serving God come into focus."

"Okay, so we don't want them to take everything for granted, we want to put some distance between what they experience and how they respond."

"How about having them put together a portfolio, containing a whole range of responses. They might do some straight data collection, tape an interview, draw or paint a city scene. . ."

"Yes, and they could write a fictional piece from the point of view of a homeless person," said Cindy, who was becoming unusually excited about the direction things were taking. "Or we could have them work in groups to put together a twenty minute radio show."

"What if we integrated this with a media study?" Cal suggested. "We could look at how the news is reported in different papers and on the TV and radio. We could examine the emphases that are given to different kinds of events and activities, and why things are reported in this way. We could perhaps have them put together their own newspaper, with all the different sections -- news, finance, entertainment, lifestyle, ads, and so on -- but get them to think about what the important items would be within a kingdom perspective. I would think there would be greater attention to Third World news and to the implications of economic competition between the industrialized nations for a fairer distribution of resources throughout the world, for example, rather than just a focus on how our country might end up with less."

Cindy had another idea. "Do you think we could arrange to have them shadow someone for a day, to find out what a day in the life of an accountant or an architect or a police officer is really like? We could draw up a list of questions for them to investigate, which would help them to look at the ways in which people in various occupations are able to serve others and also at the temptations that people face to use their jobs merely for their own advantage."

"I'm sure that that would help them to think more concretely about what it means to be a responsive disciple," Cal said. "But I think we've enough here to keep us busy for months -- I'm very pleased with the progress we've made. Perhaps what I should do for our next meeting is to map out a rough idea of the activities to include and the kind of sequence that might be appropriate. I'm really excited about the possibilities."

Curriculum Decision-Making: On What Basis?
Obviously we cannot convey everything at once to students. We make choices. But the choices we make will be limited by the options we see before us. If the supermarket shelves do not stock a certain range of products or a particular brand of that product, then our choices are that much constrained. But a critical approach to shopping (as to curriculum selection) will want to know why it is these choices and no others that are available. More frequently, we take for granted that the world is structured in a certain way, without acknowledging the extent to which it is constructed by prior human decisions. If there are no biodegradable products on the shelves, we are forced to buy products that are harmful to the environment or to make no purchase at all. If all the banks have investments in nuclear energy or in companies cooperating with repressive regimes, where do we put our savings? As Christians, we should recognize the importance of structural alternatives, for our battle is with powers and principalities. Individual decisions can achieve little when the alternatives that are offered are equally repugnant.

So it is for teachers making decisions about how to organize learning experiences. Our choices are limited by the range of decisions that we think possible in the first place. For many educators, the disciplines are assumed to represent the array from which knowledge is to be selected. For others, the needs or interests of the child are considered paramount, for knowledge is for them, when all is said and done, an individual construction and possession. And there are of course other options.

A Christian conception of the "supermarket" is as broad as creation itself. It is God who sets the boundaries to our experience, and it is these boundaries we must respect and cherish as we make our curricular decisions. The world is meaningfully structured by the Creator himself. The disciplines are not the source of this meaning, but only one kind of response to creation, alongside of which are aesthetic, economic, ethical, linguistic, and other nontheoretical but essential responses. The disciplines are thus not the necessary starting point for curriculum. Further, we are not content to see either the disciplines or other kinds of responses as the endpoint of the knowing process. We will seek the reintegration of insights gained in these various ways in everyday experience and concrete action, because God's revelation calls us to respond in loving service.

**Play, Problem-Posing, Purposeful Response**

Teachers generally do not follow rational-linear models in curriculum planning, even such well-known models as the one proposed by Tyler (1949). Unfortunately, some will be linear in their approach without being terribly rational-they will just teach according to the text. For more responsible teachers, there is likely to be a free-flowing connection between all the design elements, with teachers looking for a catalyst to bring together resources, content, goals, and activities in an engaging and helpful way. They will be oriented to these points of reference and driven by certain values as they make curricular decisions, but these decisions are of the nature of creative judgments about what meaningful unit or task will best incorporate these referents (Earl 1987; Glatthorn 1987; Shavelson and Stern 1981; Smith 1986). Curriculum design is more an art or a craft than it is a science or a technology.

So what points of reference and values ought we to keep in view in planning curriculum for the Christian school? In an important sense, the themes of the previous chapters converge here. We are looking for a simple but not simplistic idea with sufficient force to give us a small place to begin. It will not of course be a blueprint for the design process; as we have said, designing curriculum is not merely a matter of the deductive application of principles, but also of creativity and imagination.

The model we are suggesting may be thought of as a cycle with three points of reference: *play, problem-posing,* and *purposeful responding*. The cycle can be entered at any point and we can move in any direction between these points. So we are not suggesting a lockstep approach, but a helpful orientation to the curriculum planning process. Such an approach seems to us to be in harmony with a biblical view of knowing, as a rhythm of immersion, withdrawal, and return. It incorporates an understanding of learning as requiring active engagement and encompassing a variety of styles and responses. It serves the overall purpose of the Christian school as a place in which we seek to promote responsive discipleship, in which gifts are unwrapped, burdens are borne and joys are shared, and shalom is continually sought.

**An Analogy**
An analogy that helps us to understand some of the features of such a curriculum is that of a game – let's say a game of football. There is a theoretical justification for such a comparison. Both a game and a curriculum are paradigms, in the sense that they define boundaries and tell you what to do to solve problems within these boundaries (Barker 1991; Kuhn 1970).

And having mentioned paradigms, we might invite you to consider a paradigm shift, a different way of thinking about curriculum, but a way that incorporates the best of what teachers already do in their classrooms. It is a paradigm designed to challenge the "text, teach, test" model that is still so powerful, with its emphasis on exposing students to knowledge and covering the content (Sizer 1985). It is a paradigm that advocates active engagement in learning as an exciting exploration of God's creation and calls for response to creation as revelation of God and his purposes.

As in games, the curriculum will make provision for practice. Obviously, learning will require practice if it is to be consolidated. Talk about the importance of play could readily be misunderstood to oppose the hard work of repeating understandings and behaviors until they become second nature. Learning is learning only if it is remembered and repeatable, if it leads to changes in the way we act. As we shall explain, we in fact see play as a significant way in which this consolidation can occur. Play is opposed to work, but is at the heart of work as joyful service of the Lord. But at the same time, merely remembering is the lowest level of understanding that we have to deal with. Remembering in itself is a trivial pursuit – what is important is what we do with what we are able to remember. A computer can win a quiz game and can beat many of us at chess -- but a computer cannot appreciate, understand, or worship.

Games, like schools, are serious business. One has to play the game as if it were real life. Even the games of young children demonstrate this seriousness -- one faces their wrath in breaking the circle of their suspended disbelief. If only we could encourage all our students to regard school with such earnestness.

Yet at the same time, "it's only a game," a safe haven marked out for a time within the wider world. Schools too are designed to allow children to play around with things without risking the serious consequences that mistakes would incur in the real world. If students are to feel this freedom to grow and to explore, schools must be places in which the framework provides support for making mistakes, where being wrong is no crime. They ought to be secure environments for exploration and experimentation; being "wrong" ought to be seen as a significant step in the process of learning, which should be thought of as a process of identifying and correcting errors as much as if not more than as a process of assimilating truths. (It is worse to think you are right when you are in fact wrong than it is to be wrong and to know it: at least the latter condition allows for growth.) Schools should encourage this attitude of humility in learning.

This description of schools as safe havens for play is not a denial of the call for realism in schools, that they accurately reflect what the world is really like. They ought to be structured – organized purposefully for exploratory learning -- without being artificial and abstracted, such that the school world and the world beyond are worlds apart. They should treat the present lives of students with great seriousness, while maintaining an orientation to the future challenges that these students will face.

The late nineteenth century saw the rationalization and regulation of many sports. Rules started to get written down, rule-making bodies were formed, so that one didn't depend on local customs when playing a game. One could appeal to a rule book. The spontaneous development of so many sports -- baseball, cricket, different kinds of football gave way to a rule-governed stage. Games had evolved to this point, but now their further development was to be regulated. Parents and governments did the same when they set up schools to systematically promote learning, rather than letting it happen "naturally." The curriculum is intended to set the boundaries for learning, so that what happens naturally but some what haphazardly is now guided and regulated so that specific goals can be achieved with greater efficiency and effectiveness.

The rule-governed structure of a game sets the boundaries for the players' creative responses, determines in outline what will and what will not count toward their goal. But the rules as written in the rule book are only an abstract structure for the game, an analysis and refining of the messiness that is the real game. The coach's game plan provides some specific suggestions for how to play within this structure, when facing particular opponents. But it is up to the players, individually and cooperatively, to provide the pace, to kick, catch, pass, and sidestep, and to bring the crowd to their feet. Each game develops its own character as the players respond within the context of the rules to each other: each is a unique instance of the "Game."

Analogously, the curriculum charts a course for what will count as meaningful learning and the teacher comes with various ideas as to how this will be achieved. But it is in the classroom, in the dynamic interaction between teacher and students, that learning comes to life; the teacher is the captain-coach, who is part of the rough and tumble but who is there to lead and guide. Teachers have to be sensitive to the opportunities of the moment. In a sense they play both with and
against their students, much as captain-coaches stand a little outside, over against, as motivators and goads. They have a special office or calling.

The game requires the application of wisdom. It is not merely a matter of having the skills, of being technically competent. Nor is it merely a matter of knowing the rules, so that one knows what will count as success. One has to translate both into wise and competent action, action that will at this point serve the goals of the team. While the arena is the context for the display of certain skills, this is not in isolation, but always in the context of trying to reach some goal or overcome an impediment. Similarly in schooling: we do not seek merely the display of skills and abstract understanding; we seek that children will be able to use these skills and understandings in insightful service of God and neighbor, bringing justice where there is unrighteousness and peace where there is discord.

Each game is a series of problem-posing segments. Attempting to catch the ball in football is a discrete problem to which a player responds with purpose, as in deciding when to kick, when to pass, and when to run. The creative responses, the moments of greatest excitement and jubilation in sports are the spontaneous, seemingly non-rule governed responses to the problem, when technical excellence is submerged in creative flair.

Each player has a position, a role, but within these roles players have the greatest possible freedom, freedom both to make mistakes and to grasp opportunities. Split-second decisions are made, to kick or to run, to go left or right, to cover this opponent or that.

In the classroom, twenty or thirty children are careening this way and that, mentally and emotionally if not physically, and the teacher is trying to lead the way. Teachers judiciously pose problems to students but more importantly, students are encouraged and guided to do the same, to take the initiative in directing their own learning. They are the players, and the teacher has succeeded when they freely and actively take on the curriculum's goals for learning. Then, the excitement of the class is evident as they strive toward a common goal. Together, the class looks for those moments of creative insight and discovery, of understanding suddenly as well as painstakingly achieved, of application of skills and understandings acquired in new and startling and incredibly rewarding ways. In an attitude of dogged perseverance, all will be on the lookout for those moments when the unexpected occurrence provides an opportunity to be grasped.

There is an overriding purposefulness to players' responses. They are goal-oriented, but there are many different ways in which the goals can be achieved. The ends are common, though the means of achieving them are virtually limitless -- within the rules. And so it ought to be within schools, where the curriculum sets the goals yet teachers allow and indeed seek for many paths to their achievement.

No two games are ever the same, but the most unsatisfying games are those that are the most predictable. The interest of a game depends upon the interplay between form and freedom: too much form, and the game becomes mechanical and dull; too much freedom and chaos reigns, and nobody is able to carry anything through to resolution. The same conditions apply in the classroom, where the teacher's careful guidance through the curriculum depends upon a responsive sensitivity to the nuances of student learning.

A team sport depends obviously on cooperation and understanding between the various players: the "stars" who seek only their own glory might well shine for the moment, but will in the long run defeat the team's purposes; or to put it differently, stars will in fact depend for their virtuoso performances on the solid preparatory work and support of their teammates. Similarly, the most effectively functioning classroom will be one in which the students are encouraged to be team players, cooperative learners, with gains both for those who are weak and those who are strong in particular abilities.

A Problem with "Problems"?

Sam Freeland is the Resource Teacher at Central Station. Somewhat of a paradoxical figure, he is perceived as a warm and loving person who can yet be pushy and insensitive. He sees an objective to be achieved and then goes all-out for it. "I like the emphasis on problem-posing," Sam said. "It gives a way of thinking about active engagement in learning, certainly. But I don't think everything in a school can be thought of in terms of problem-posing. What if I just want to read a poem or a section from a book to kids, so that they just enjoy the experience? There's no problem posed in that, nor should there be. I want them to think into the poem, to feel it, to play with the images. I certainly don't want them to think of it as a problem. In fact, one of the biggest problems we have as teachers is just that kids think things are problems when instead they should be responding positively to them. The notion of 'problem' is altogether too negative in tone. "
"Well, you would still agree that how to get them to enjoy the poem presents a problem for the teacher?" asked Karla. "That in our planning, we should still maybe think in terms of posing problems?" Karla has in the back of her mind Stenhouse’s (1975) notion that the curriculum is like a hypothesis, to be tested out by students and teachers together in the laboratory of the classroom. The teacher’s plan is a "best guess" for what will promote learning at this point.

"Sure," Sam replied, "but you’re stretching things too far to try to think of everything in terms of problems. I can agree that what we want from students is a purposive, personal response, but I really think there’s a place for creativity, appreciation, enrichment that is not covered by the notion. It makes life out to be full of tension all the time; I often think that what we need to do is sit still more and pay attention."

"Yes, and there’s something else too," Jim contributed, somewhat excitedly. "Sometimes understanding just comes, like in a flash of insight. Sometimes things just come together in new ways, without our having consciously sought them. They come like a gift. In fact, I think all understanding is at root a gift, a gift of God’s revelation by the Holy Spirit."

"Agreed -- we see nothing but what God enables us to see. But the responsibility for us as teachers is to not just sit around and wait for insight, but to plan for it," Karla said. "That’s the whole purpose of curriculum. Maybe we can’t guarantee understanding on the part of students but we have to do all that’s in our power to maximize the conditions in which this is likely to occur."

Dennis tries to draw some threads together. "Okay, we want kids to respond to what we are teaching, to be responsive in the classroom, and out of it for that matter. And we don’t just want them to be responsive, we want their responding to have a certain orientation to it: we want them to be disciples of Christ, to respond in thanksgiving and service. I like the idea that one way in which we can achieve that is through play. We need to remember that God has built a rhythm of rest into his world-sleep, the sabbath, jubilee, the rest into which we will enter at last. Resting implies trusting, means recognizing that everything ultimately is God’s provision for us. I think it’s by giving kids the freedom to explore, to play with new ideas, to try things out -- to rest, in the sense of not consciously setting out to achieve a particular goal all the time, beyond the experience itself -- that we generate creativity. When we are still before the face of God, or in contemplating a painting, or just enjoying the company of another person -- really deep learning can occur without us ever actually setting out to get something out of the encounter. I’m sure that’s what the Westminster Confession has in mind when it talks about the calling to enjoy God."

"Well, as long as we’re each putting items on the notice paper, I may as well say my piece," Patrick chimed in. "I know I probably won’t get much notice taken, but I want to remind us all of the place of skill learning -- and even rote learning. Sometimes we just have to focus for a time on the practice and mastery of skills. Especially at my level of the school, in the senior high school years, that’s going to take up most of the time."

This gets Sam’s hackles up a bit. "Sure, Pat, but even skill learning can be more interesting, more intrinsically motivating if we see it not just as repetition, not just doing the same thing over and over again. It’s really trial and error correction, where the goal is a certain sort of performance and we are continually working to correct our activity to come into line with it. It’s not merely repetition, in fact, it’s recognizing a problem in our performance and trying to overcome it, to bring it more in line with what we believe the performance should be. The first step then is to recognize that we do have a problem. It’s really like trying to shape our activity to a predetermined design, like a violinist trying to realize, to make real, the problem that is posed to her by a composer’s score. People will put an incredible amount of energy into such learning if they recognize they are striving for a worthwhile goal. Learning to draw with perspective or to factor equations is much more significant and readily pursued if they’re seen not as skills in isolation but as ways of working through problems to a solution. I don’t think skill learning is as hard to explain in the problem-posing paradigm as the areas that we’ve talked about as play. Maybe we need to go with a ‘problem plus play’ paradigm."

"Well," Dennis responded, "wherever we go with that, we are all agreed that schools should be in the business of promoting ‘real learning,’ meaning learning that has relevance and applicability not only inside but also outside the school context, and that often times we’re not doing a good job of this. It’s got to be learning for life. This doesn’t mean that it always has to be immediately ‘useful,’ or even ‘nonacademic’ in character, it just means that the school doesn’t exist in and for itself but is a preparation for life in the world."
“Right,” said Sam, “we want kids to be able to apply what they have learned in school outside school as well. But I think we want them to be able not merely to apply, but also to think past and beyond what they have learned in school. We want them to be able to generate new understandings that they haven't been presented with in school. We want them to be creative and in a sense, autonomous, to be able to think for themselves.”

“Well, if we want that, can we teach them the 'skills' of creativity in school -- if there are such things?” Patrick finds himself somewhat surprised to be taking this tack.

A Playful Curriculum

The Christian life is one of being surprised by joy. Wherever we look, we see the miracle-working hand of our Father; whomever we see, we see the image of God. We live our lives out of gratitude to him for what he has done for us in Christ. We know that our Redeemer lives, and that he has renewed our lives, that we might live fully and abundantly in his service. The whole of our lives, in every area, has been restored, as indeed has the whole of creation. We live lives in which love has cast out all fear, and. we can run now with joy, feeling God's pleasure. In Christ, we possess all spiritual blessings, the treasures of wisdom and knowledge. We can share with the stars as the children of God, singing together and shouting with joy at the wonders of his creation (Job 38:7).

This is the joy we wish to share with our children, and to do so through their schooling as through all their other experiences. The curriculum should first and foremost reflect this joy and celebration, this wonder and amazement at being alive in such a rich and vibrant world, fashioned for us as our home. We are not strangers here; we are called to rule -- which means to serve -- to the glory of God.

We choose the word play to describe this, in part because play is so often missing from the experience of our children -- at least when we confront them with the "serious" things of life, such as the school curriculum. Certainly, we give them many opportunities for play at other times -- perhaps too much -- but we do this as a reaction to the harshness of the rest of life. Rather than a rhythmic integration of work and rest, our culture encourages an excess of joyless work and a surfeit of mindless play. We need to recover the biblical balance, in which everything we do is conceived as service to our Father, in which there is playful joy and shalom in our work done in gratitude to him and. play is also part of the work we are called to do in his creation. We are to be responsive in our discipleship: there has to be a certain play in our faithfulness, as befits those made in God's image, and. not a mechanical and legalistic conformism for obedience's own sake. True discipleship will be characterized not by brittleness -- I have to do this because a stern and omnipotent God demands it of me -- but by suppleness, a free willingness to please our loving Father. The yoke that we bear is light, and the life that we are saved to live is abundant.

The metaphor of play thus has for us these fundamental religious dimensions, "enjoying God and his world." But we use it to encompass a number of related dimensions as well.

From the point of view of our understanding of knowledge (chap. 7), we use it as the curricular equivalent of immersion in concrete or everyday experience. We learn as we rest in the coherence of things, as we allow ourselves to move freely (either relaxedly or intensely) among its various components. We come to know people, organizations, living rooms, dogs, language, by our ongoing exposure to them, if we are sensitively open. The curriculum should allow ample opportunities for this "playing around with creation." In educational terms, we may think of it as broadening experience,

Some people regard this as the aesthetic, creative, affective, imaginative domain of curriculum, one they would argue has been much neglected or denigrated in our school culture. They may see it as the realm of freedom and individuality, necessary to compensate for the overrationalization of our society. We can certainly learn much from those people who have focused their attention on these aspects of God's creation, but we must be careful to rid their observations of the distortions that enter in because they have so often -- as in the romantic tradition -- made these aspects the source of order and meaning.

All true understanding of God's world, and not just certain kinds of it, requires this playful engagement. This realm of play is a response to the ordinances of God, for it is in responding to these that we find blessing and joy. Would not Adam have found joy in God's revealing the animals to him, in their myriad wonderful forms? Would he not have found joy in wrapping his mouth around newly-found names for them, playing with the possibilities of language and doing his God-given work at the same time?
We have noted the charge that a curriculum according a place to the dimension of play is not a serious curriculum. On the contrary, we would argue that play is necessary if children are to make those broad connections between the various aspects of their experience that are so important to effective learning. To bring together seemingly unconnected things in playful ways -- as in humor or scientific theory-building -- is a productive rather than a wasteful activity, conducive to deep rather than surface learning. It encourages students to cross boundaries and to connect their learning to their everyday experience. It invites them to engage with the world in the many sides of their humanness.

Too often, in Christian schools as well, we start with material that has been cleansed of its uncertainties and ambiguities, its connection with rich real-life contexts. We "clean up" life for pedagogical purposes -- perhaps too often, sterilize it. We think our task as teachers is to determine the logical structure of knowledge and then to transmit this to our students, rather than to take their hands and lead them as together we explore creation. Kuhns (1970) account of the teaching of science applies to other areas of the curriculum as well: rather than conveying the false starts and blind alleys, the frustrations and failures, the serendipitous and surprising course of scientific discovery, we paint a picture of inexorable and tidy progress as humans apply their logical powers to unlocking the world's secrets. We might look for "applications" of this clean, conceptual structure, but we have too often lost our students at the outset.

Most distressing about this reliance on a logical structure is that we limit students' ability to experience Christ, except in terms of logical propositions, statements, or assertions, because the experience of creation in its rich many-sidedness (which would evoke a response of praise, wonder, and worship) has been transformed into a system over which we think we have control, over which we think we gain mastery.

This was the mistake of Job and his friends, or of the Preacher in Ecclesiastes. The answer comes only at the end of their texts, when their words are at an end, in the silence of standing before the face of God in awe. The answer comes also in the Song of Songs, in the enraptured immersion of the one in the life of the other, not questioning and challenging, but loving and knowing. It comes in the being, rather than the doing, because here one's dependence upon the One who gives life, rather than on one's own doing, is most pointedly underscored. It comes by annunciation, as a gift of the Holy Spirit (Taylor 1972) rather than as something to be consumed or conquered. It comes by being still before the face of God and in contemplating the works of his hands. For these works speak of him, so that in the face of them, we are without excuse, and must fall on our faces in praise, honoring him for who he is.

What this implies for curriculum design is that we include periods of play in each "lesson" -- defined as any segment of teaching and learning activity with its own inner coherence, which we could remove from a sequence and replace with another segment. We might well choose to begin with such a period and to return from time to time to this playful focus. Or we might begin with a problem, posed by us or by the students, and move from there into concrete experience. In either case, we need to ensure that students have the requisite experience to enable them to be able to make sense of and meaningfully integrate the structured learning we are requiring them to do. We need either to bring their past experience into focus, or provide them with the experience -- direct or vicarious -- necessary as a foundation for learning.

Hamlyn (1967, 26-27) makes the point thus:

Nothing is contributed by way of understanding when people are made to recite general propositions, even if these are fundamental to a subject. Thus, to present a very young child with, say, the general principles of number theory or algebra would be a futile business; for, he must be capable of cashing such general principles in terms which mean something to win, if understanding is to follow. There is in the growth of understanding of any subject an intimate connexion between principles and their applications or instances. Principles must always be seen cashed in these instances, but instances must themselves be seen as cases to which principles are relevant.

In play, we lead students in the exploration of concrete experience, of instances that will be both meaningful in themselves and significant in helping them to develop more generalized understanding. Learning involves coming to make connections in experience, so we need to ensure that there is something for students to connect. Obviously, the more mature the students, the more previous experience we have to tap into, and the more appropriate it might become to introduce learning segments with even abstract problems. But even here, if they are to integrate new with earlier learning, and theoretical insights with their everyday experience, play will be essential.

If we were developing a unit on race relations, our first step might be to draw on the students' experience by having them tell their stories about the topic. We might use a novel, short story, film, play, role play, or visiting speaker to stimulate or to follow up this exercise. We would introduce students to or remind them of the diversity of ethnic groups as
part of God's post-fall creational intention. We would explore the richness that this brings to life and culture. We would use music, art, recordings, literature, film, a trip to the museum or a relevant part of town, regional cuisine, and so on to fill out their experience, to immerse them in the area in a whole-bodied way. The Mountain City teachers were pursuing such an approach. Rather than making a study of cities in general from a social science text, they were using the resource of an actual city in all its rich complexity, and were wanting their students to soak up as much of the life of the city as possible. The patterns and generalizations they gradually come to perceive would then not be abstract but content-full.

Pragmatism Revisited?

"Creativity! I think I can see where this problem-posing approach would be different from Dewey's approach. Dewey had in mind that problems could all be solved by application of the scientific method, so it was still a rationalistic model, And he also had a pragmatic understanding of knowledge, so that a solution to a problem could be determined without reference to normative principles."

The apparent similarity between a problem-posing approach and Dewey's problem-solving orientation had been bothering Cal ever since they had started to discuss the notion. He had a deep-seated conviction that a Christian school should emphasize that religion and not rationality is the defining characteristic of humanness. Talk of problems sounded too intellectual to Cal, too much like textbook math exercises that students were asked to solve, exercises that were really just analytical puzzles. His sensitivity to literature and the arts generally, to the ways of conveying truth that were not primarily analytical or theoretical, made him aware of the importance of placing the rational alongside rather than above other human faculties. Problems needed to be thought of as challenges of various kinds -- aesthetic, ethical, technical, and so on -- each of which was at root religious.

So, although he wanted to recognize diverse forms of truth, he was also concerned with what criteria were to be applied in determining truth. He thought that this meant always trying to take account of the fact that the world in which we live is through and through God's creation, which means that it is everywhere subject to his law. Dewey's reliance on the democratic community as the measuring stick bothered him deeply. As far as Cal was concerned, there are ways in which we ought to go and ways in which we ought not to go in every area of life, ways that are determined by God's law rather than by what merely furthers the life of the community or the satisfaction of the individual. This is why problems had always to be understood as fundamentally religious.

Patrick was beginning to get frustrated. He liked to think of himself as an eminently practical man. "Look, it's all very well to drag Dewey in and to start getting all sophisticated about this notion of what a problem is, and so on, but I have basic problems with constructing a curriculum around problems. Number one, it would be very time-consuming, much less efficient than moving through a program according to a logically determined sequence, one that takes seriously the structure of the disciplines of knowledge. It seems to me that learning is going to be much more powerful if we give kids the fundamental organizing ideas, which they can then apply in a whole range of contexts, than if we take contexts themselves as our organizing principle. What is the transfer from one problem-posing context to another going to be?"

Sue could agree with Patrick in part. She knew that the curriculum had to have a coherence and an integrity to it, so that a problem-based fragmentation did not simply replace a subject-based fragmentation. "Sure, Pat, we will want to emphasize the development of cognitive structure by kids. But we're agreed that having them merely memorize the details of the disciplines is not going to help them to do that. They can learn facts, figures, and algorithms for tests, and then promptly forget them. It happens all the time. What did that student say the other day-- 'Inhale it, spit it out, forget it.' What an indictment! But we are going to want them to develop rigorous and disciplined ways of approaching the world, so that they actually retain the facts, that is, know how to retrieve them and employ them when they have to. 'Knowing that' is really only a kind of 'knowing how.'"

"Well, Sue, I'm not convinced," Patrick said. "But if you take problems -- let alone problems and play -- as the basic organizing principle of your curriculum, what's going to provide the coherence, and the guarantee that you've actually considered all the areas that a school curriculum ought to consider? Aren't you just talking about another progressivist view of curriculum? And we know where that leads! Kids might be enjoying themselves, but will they be learning?"
"My response to that, Patrick, is that we have to come back to biblical fundamentals." Dennis has been giving the question of biblical perspective a lot of thought recently. He has begun to see his role in the school as one of calling the faculty back to this central vision. "In terms of structure, we will have to start with what Scripture says about creation. We would map out the contours of creation as we understand these in the light of a biblical world view. You know, that there are distinct structures, distinct kinds of things that God has created, like the plant and the animal kingdoms, like marriage and business, and that in each of these areas there are responses that are in conformity to God's purposes and responses that are not. Then, we would recognize that there are varying courses one can chart through experience of creation, and that we are looking largely for experiences that will promote growth in responsive discipleship."

As Dennis anticipated, Cal was in agreement, "Right on, Dennis. Our goal is not going to be Dewey's 'that which is productive of further growth' but rather, that which leads to more faithful action. Discipleship is not merely a matter of individual fancy or feelings; it's a matter of taking our place here and now in the story of God's people, in real continuity with what we know about faithfulness as this is revealed to us in Scripture and in the history of the people of God -- and in the history of all people for that matter, because even Cyrus can be God's servant, or Galileo.

"If we guide students to know the world as it really is, then they will see its coherence. In the end, it's a matter of faith, a response of faith on a kid's part. The coherence of creation cannot be found within creation itself, but only in Christ. If we lead them to think the truth lies elsewhere, or if we guide them to see only fragmentation, we'd better watch out for the millstones!"

Patrick is impressed with this line of argument, but his concerns remain, "We should never forget the special nature of schools. They are places designed to promote learning, so we will want to measure everything that happens in school in terms of this goal. Not just any learning, of course, but learning that promotes discipleship. I agree, Dennis, our schools have to be places of real rigor, where students are called to the highest possible standards of which they are capable. A large part of this involves the standards that are set by the various disciplines, the languages that people have used to respond to creation."

"Sure, Pat, some of these are the languages of the disciplines, in the academic sense of subject areas," Sue said. "But some of them are disciplined in other ways, like the disciplines of musical or artistic conventions, or the disciplines of a trade, or even the discipline of loving a friend faithfully. We've agreed in our mission statement that when we talk about the promotion of learning, we have far more in mind than traditional academic learning. But you're right, everything in a school has to promote the goal of learning for discipleship. That's why we spend so much time working on the curriculum."

"Okay, Sue, but whatever the area, we have to work within the established boundaries as far as possible, or at least when we wish to diverge from these, we have to demonstrate very good grounds for doing so. There is a continuity of story in the human endeavor, a community of understanding that ought to be maintained, because we have been created to live in community. The disciplines are really just one part of this community of discourse."

Dennis is reminded of another basic component of the school's vision, and takes the opportunity to promote it. "If we are going to stress community, we need to remember that we are members of two communities, and that these can sometimes, or maybe often, function at cross-purposes. I mean, we have our solidarity with all people in Adam, but we also have our solidarity more specifically with those who are members of the body of Christ. I suppose it's really a matter of being attuned to the spiritual direction that is at work in particular contexts, so that we stand with when we should and also stand apart when we should. If we draw from the disciplines, we are going to need to give them our own peculiar twist, because they have been developed in the main in secularized contexts, and often according to explicitly secular principles. It's not a matter of being distinctive for the sake of distinctiveness. It's a matter of being faithful to the truth. Sometimes that will mean we're in agreement with the consensus in a discipline, and sometimes we'll be in disagreement. But it does mean that we can't take the disciplines at face value. We need to remember that we're not just dealing with objective knowledge. Here, like everywhere else, there are distortions at work, often quite subtly."

The Problem-Posing Curriculum
Through our playing around in God's world, our knowledge *is broadened* and enriched. But in the problems posed *to* creation by us *and* by us to creation (in a moment of *withdrawal*) our knowledge *is deepened*. As we focus on the world in a particular way -- ethically, economically, theoretically, technically, and so on -- we stand over against creation in ways that will actually change our experience of it. A problem-posing curriculum is one that plans for this new way of seeing and being in the world as a continuous process. A couple of examples will help to make this clearer.

The first is the ACME Crew Project, a nine-week unit for high school students integrating the academic and vocational curriculums (Beck, Copa, and Pease 1991). This began with a scenario (the period of play that in this instance provides a meaningful context) about a family furniture business that was losing its share of the market to imported furniture. In response to this problem, students and teachers from economics, wood technology, and family and consumer economics classes decided to develop, produce, and market a new line of shelves. Teachers acted in their normal roles, drawing on their expertise as specialists, and also as business consultants, helping students deal with such practical problems of work life as compensation, equity, performance review, risk-taking, and cooperation.

It is worth noting that teachers recognized the inherent challenge to their teaching philosophies. One commented, "Kids are asking real questions. It will be hard for some teachers to let go and let kids seek and discover knowledge" (Beck, Copa, and Pease 1991, 31). This is of course both the risk and the reward of teaching in a problem-posing way. Teachers can never comprehensively predict the issues that are going to be raised or the paths that will need to be explored. Teachers must be prepared to give up some of their control and power in order to empower and enable their students.

This is how Beck and colleagues reported the project. But we will do some further imagining about the range of problems with which students might have dealt in this context.

We have to decide what the shelves will look like. What timber will we use? What would have an interesting grain? What would be strong but relatively inexpensive? Are the shelves going to be painted? How do we go about raising capital? Are the girls going to be involved in doing the actual building? Who's going to do the drafting? How do we decide what to do with the profits? Should we distribute them evenly among the workers? How much should the investors get? What about contributions to needy people -- do we have a responsibility there? Should we be allowed to play the radio while we're working? How long should our breaks be? What safety measures should be observed in the production process? What does it mean to be a faithful steward in this context? Is the timber that we are using going to last as long in the shelves as it would take to replace it by growing the necessary trees? Are we taking advantage of the unique features of the timber -- its beauty, or its ability to bear stress? Are we responsible to replace the trees we have used or is that someone else's responsibility? Who should make the decisions -- should we all be involved, or just the management? How do we calculate the amount of timber we need to order? How do we decide how much to order in terms of possible economy of scale-what if we buy too much because it's cheaper per unit to do so but then can't sell most of it? Should we build shelves with doors? What have been some different designs for shelves and bookcases at different times and in different places? How should we advertise the shelves -- what would be an honest but still appealing way to inform people about these shelves and their strengths and weaknesses?

Clearly, the range of problems that can be explored in such a unit is both wide and rich, requiring the practice of many of the skills and understandings that might be addressed in a traditional curricular framework but in a much more "real-life," concrete way. Gifts will be unwrapped, students will have to work cooperatively, and they will be called at each step along the way to reflect on how their decisions reflect a commitment to shalom, to stewardship and justice in God's kingdom.

Another project -- a joint one between applied mathematics and business management teachers -- focused on the viability of a proposed Frisbee golf course; teachers thought this might be a valuable recreational resource for teenagers in the community.

The unit emphasized statistical applications and analysis. Students collected two types of data. Using a Frisbee accuracy range, they gathered data for different distances and angles for the course and effects of student characteristics such as left/right handedness, age and grade level. They also conducted market research with fellow students. Students entered the data into the database and graphing functions of Apple-Works™. With the computer at the intersection, mathematics students took the direction of learning the statistical concepts, and the business management students moved in the direction of analysis. The final products were videotaped impact statements and a decision not to build a Frisbee golf course. (Beck, Copa, and Pease 1991, 30)
We can see once again that such a unit could have a much broader application than the teachers involved chose to give it, although even so it illustrates the ways in which mathematical and accounting skills and concepts can be explored in more concrete, meaningful contexts than is usually the case. Issues of recreation, physical fitness, competition, and the aesthetic appearance of the proposed course come to mind as areas that could also be explored, all in the context of what it would mean to respond faithfully to the Lord’s intentions for shalom filled human life.

A student production of a play or the design and construction of housing for Habitat for Humanity (as already undertaken by a number of Christian schools) are another couple of examples of problem-rich contexts in which students can play around purposefully. In producing a play, for instance, there are aesthetic problems (the design of costumes and sets, the color of lighting, the choice of make-up), technical problems (set construction, lighting control, acoustics), economic problems (cost of hiring lights and other equipment, admission charges, time taken away from other activities), literary problems (interpreting the text), social problems (both those raised in the text and those that arise as a group works together for an extended period), and the central problems of drama and language. Again, in such a context, students would need to learn to work cooperatively with each other, they would unwrap their various gifts, and they would be faced time and again with the question of what is a faithful way to proceed. Teachers would help them to discern these challenges, drawing on insights from their special knowledge of the disciplines and their own life wisdom, and confronting them with the demands of Scripture.

The teacher’s responsibility in such a context is to pose problems quite directly to the students, to guide them to see problems of which they might not otherwise be aware, and to help them to pose problems themselves. It is important however that the teacher’s posing of problems does not degenerate into an endless routine of exercises for students to complete. The problems must be real for the students, not merely the opportunity to show off certain skills. And a teacher might well measure success in terms of the extent to which students themselves become generators of problems. When students approach a teacher and ask whether concession tickets should be available, whether the stage hands should also take a bow, whether everybody ought to have the opportunity to take an actor’s role, whether a scene should really be played as the author wrote it, given what the Bible says about edifying behavior or the potential dramatic impact of a scene, the teacher has cause to be pleased. Real learning is taking place.

A powerful strategy for promoting problem-posing is “Predict, Observe, Explain (P.O.E.),” in which students are presented with a situation and have to make a written prediction, with supporting reasons, about what will happen next or when a particular action is taken (Baird and Mitchell 1987). They record what does happen, and if this differs from their prediction, they try to give a revised explanation. P.O.E. can be used equally well in reading a novel, exploring a historical event, or investigating phenomena scientifically.

A related strategy is to invite students to write their questions about a particular topic at the beginning of a lesson. These may be written on index cards, perused by the teacher, and then placed in a central location, to be collected as students think they have been answered; not only does this help to orient the teacher to student concerns and to keep students in an enquiring frame of mind during the lesson, but the cards remaining at the end can serve as a starting point for future lessons. Various strategies should be employed to train students to ask good questions, such as asking every student to write one question beginning with “Why does . . . ?” and another starting with “What if . . . ?” Teachers may set a passage for reading, and offer to explain only in response to student questions.

A playful, problem-posing curriculum is necessarily oriented to practice, but it is thoughtful rather than mindless practice. Students are not just practicing skills; they are encouraged to be reflective practitioners. The kinds of understanding that they would normally explore in a traditional curriculum -- computation, use of language, historical background, qualities of natural materials and of sound and light, for example -- will also be explored here, but within a richer and thus more meaningful context. Connections will be made, both across subject areas and with their own experience, and more fruitful learning, reflecting the interconnectedness of creation, will be possible.

The nature of the problems that are posed, and the time spent in exploring them, will vary from one developmental level to another. In grade one, the teacher may challenge students to form the letter q, or will set up a number of learning centers with various problems to solve: Will it float? How can I divide these objects into two categories? What shapes can I make from these pieces? Problems such as these are challenging to students of this age, as so much in the world is still new to them. At higher levels of schooling, the problems will be more complex: perhaps the problems of male-female relationships as presented in a novel or those of environmental degradation confronted close at hand and further afield. Problems may
also become more abstract, within the limits of a subject area, but it will be best if these too emerge from and are reintegrated into concrete problem-contexts.

Teachers should employ strategies that will help students to be metacognitive. These could include asking them to identify what the main task for the lesson was, what the purpose of an activity was, and what they think should be done next. Students should be encouraged regularly to reflect on their own progress, through a journal or a weekly assignment. Monitoring questions can be inserted in tests (“Have you used the correct tense throughout this passage of translation?”) and procedural checklists can be completed before submitting assignments (“I have checked that I have answered every part of the question.” “I have used the required form for the references”).

**Purposeful Responding**

Problem-posing facilitates effective learning, in a way that respects the responsible freedom of persons made in the image of God. It calls students to choose to respond, and to do so in ways that are faithful to God's intentions for his creatures. It takes seriously that the creation in all its concrete complexity is turned to us as revelation, and that we are to seek to listen to the voice of God as he speaks to us.

This problem-posing approach does not exclude direct teaching via the lecture and the chalkboard, nor will it rule out sustained attention from time to time to skill development. But its pervasive rhythm will call students to "consider, choose and commit" (Oppewal 1984). It will invite a purposeful response, challenging them to say yes to the good in creation, no to the evils that sin has wrought, and the "Amen" of Christ to the healing that can be accomplished.

Thus, curriculum planning will not be content only to raise problems. As responsible guides of our students, we will be concerned that they learn to respond purposefully to problems. This does not assume the application of a particular method to solve problems. There is no such guaranteed method for most complex problems and we will also be seeking to encourage a range of responses to problems in accord with the variety of students' gifts.

Scripture proclaims to us the purpose and purposefulness all of life, in a creation ordered and sustained by God. We cannot accept the view that we are adrift in a world of confusion, where nothing can be done to move toward shalom. Instead, we will lead our students to respond in hope, claiming the redemption that Christ has wrought and acting to bring healing. We cannot coerce this response, because it has to be given freely from the heart. But we trust that the Holy Spirit is working to call forth this response from his people, and that our privilege as teachers is to serve as his agents, witnessing to Christ's lordship in all things.

Knowledge drawn from the subject areas should inform teachers' decisions about the kind of responses to problems that are on target -- when aesthetic or economic criteria are more significant, or when to use Pythagoras' theorem or quadratic equations. Students should not be asked to reinvent the wheel, though they will hopefully develop a greater insight into why the wheel was necessary in the first place and what purposes it can serve. The "standards of excellence" embodied in the disciplines will also be maintained, though the proving ground for academic learning is a much closer approximation to the complexity of out-of-school, problem-solving than are the normal devices of tests and quizzes.

In the ACME Crew Project, students were asked to wrestle with a wide range of problems. These problems had to be considered one by one and in their complex relatedness, as students decided how to act. As teachers helped students to focus on these problems and as they guided students to act thoughtfully and carefully, with clear intentions, they called students to respond purposefully. The students were not merely required to complete a task because of an agenda established for them by the teachers, they were invited to take responsibility for their own learning and actions. They were called to respond to God's ordinances for stewardly use of resources, to the God-given properties of the timber as they worked the grain, to their God-ordained obligations to their neighbors, near and far. In all of this, they had the opportunity to learn that all of life comprises moment-by-moment decisions of how (and whether) to act in faithful response to God -- that life, in its entirety, is religion. The most purposeful response that can be made is that of the disciple, responding in grateful obedience to the Lord.

**Conclusion**

The model presented in this chapter is suggested as one way of implementing the principles of an integral curriculum, outlined in chapter 7. The emphasis is on active engagement of students in their learning. They are not merely the passive
recipients of information or the robotic reproducers of skills, but take responsibility for forming their own understanding and abilities. They are respected as persons, images of God, and not treated as animals or machines. They are called to be responsive disciples, and are prepared for real-life decision-making by learning in real-life contexts.

Second, there are real learning opportunities for students of all kinds of ability and interest. The slices of creation that are explored, are sufficiently rich as to allow students both to be challenged in a variety of ways and to contribute in a variety of ways. There are many different kinds of problems embedded in the areas of study, not only theoretical problems, but also aesthetic and stewardship problems, ethical and technical problems. There is a host of opportunities for unwrapping gifts.

Third, because both students and teachers have many more opportunities to work together, they are more able to recognize their interdependence, sharing one another's joys and bearing one another's burdens.

Finally, the concrete and appropriately complex problems that teachers invite students to address allow for a ready consideration of religious, normative issues. They are encouraged to be seekers of shalom, searching out paths of action that will bring the healing power of Christ to bear, both now and in the future.

We hope that this chapter has given you a “forceful idea” that can help you to evaluate the curriculum structure of your school in biblical perspective. In the next chapter, we will address the question of determining the overall program for the school, before returning in more detail to strategies for devising units of instruction at the classroom level. We trust that in these and other chapters of the book, you will also find "a small place to begin."

Questions for Discussion

1. Do you think that the play, problem-posing, purposeful responding model reflects a biblical view of knowing and learning? What strengths and weaknesses do you see in the model from this perspective?

2. What opportunities do you see in the model for curriculum design in your school? What do you see as the limitations of the model as a guide for practice, and how would you correct these?

3. A major argument for organizing the curriculum in integral units (the model described in this chapter being one way of doing this) is that it enables teachers and students to confront the religious (What is the source of order and meaning?) and normative (How should I act?) issues more readily than a subject based or integrated curriculum. In what ways do you think the model would be helpful in highlighting issues of religious perspective and faithful service?

4. In what ways could the model be adapted for use within a subject-based curriculum structure?

5. What opportunities are there in your school for teams to work on curriculum development? What organizational changes could you make to facilitate this?

6. Does your school have a systematic approach to writing up curriculum? Is someone in your school responsible for oversight of this? Are funds set aside specifically for this purpose? Does your school have, for example, curriculum writing grants for summer projects?

7. What mechanisms does your school have in place to ensure that the whole school community is involved in curriculum development? In what ways are teachers accountable for their curriculum development?

Recommended Reading

   A good general introduction to the influence of educational values oil conceptions of curriculum.

   An important critique of traditional perspectives.

A major source for the notion of a problem-posing pedagogy.
Difficult to read but worth struggling with, in a critical frame of mind.

   Develops the idea of an "integral, problem-posing" curriculum for Christian schools.

   These books explore many ideas that are complementary to those discussed in this chapter.