

# INSTRUCTIONAL INTELLIGENCE

By Barrie Bennett

## A simple scenario:

Let's say you have been teaching for a few years and you have been reasonably successful as a middle school teacher. It is Saturday morning and you are walking through a community park. You want to think for a bit so you sit down on a bench. Sitting on the bench beside you is what appears to be a wise person (older than you with greying hair and a kind look that tells you they like to listen). You glance, she glances, you nod, she nods. At some moment after the nods are completed, that person asks you what you do in life.

You tell her that for approximately 200 days each year, you design learning environments for 30 learners who demonstrate a diversity designed by such forces as their ethnicity, their learning styles, their sensory strengths, their gender, their genes, and their life experiences etc. You also share that one in five of your students are at risk of experiencing one or more of the following: living in poverty, witnessing violence, experiencing physical abuse, emotional abuse, neglect, sexual abuse, and divorce. You also mention about the different intelligences, and about current brain research and how that informs your decisions. This wise person then says, "Hmmm, interesting. To do this in a meaningful way day after day, year after year for these students must be a very complex, demanding, and important task." You agree, sit silent for awhile, get up, nod, and leave.

During that silence, prior to leaving the bench, you felt like getting into the politics and personalities of education; about the imposed provincial curriculum and provincial testing, and funding, and ... but the Zen workshops you are taking in the evenings was paying off and you just let it go.

The next Saturday that person is again sitting on the bench. You both nod and smile. And, once the pleasantries are complete, another

## Meeting Diverse Students ... Diverse Needs

conversation starts. At some point she asks a question. "I'm curious. I thought a lot about what you said the previous week and would appreciate it if you would describe a moment in your classroom; could you tell me how you think or what you do when you work with students?"

You begin by telling her that your biggest task when the day starts is to try and hook the students' interests. They have so many things on their minds – trying to find the space to fit their life stories into the imposed stories of curriculum is hard. You go on to explain that you have outcomes or things society expects you to teach so you explain to her how you discuss with your students what they are learning and why it is important. After that, you try to find a variety of ways for them to get that information in interesting and meaningful ways. You explain how different learning styles, different intelligences, learning problems, gender, and what the brain research says sort of crashes around in your head as you try to make decisions about how that information is provided. You go on to explain how you have to demonstrate and model things and that you have to always check to make sure they are grasping/understanding the key ideas. Somewhere in there you weave in the idea that they have to do something – like in anything that involves getting better – you have to practice. Following that you explain that before you shut down or close the lesson to shift to something else or before the kids leave you explain that you like to do one last thing to find out what actually stuck in their heads. You then inform her that one complexity in all of this is attempting to balance when they should work alone and when they should work with others. You tell her that

trying to get students to work effectively in groups is difficult at times. You explain that in the real world very few business want employees who can sit in rows and when stuck on a problem will put up their hands and wait for the boss to come over and solve their problem. Last you sort of guiltily tell her that you could probably do the lesson in a completely different way and it would be just as effective – that there is no best way to teach – that all teachers can teach differently and be equally effective or ineffective.

She then asks you if she could be so bold as to ask you if you could bring in a sample of what you did with your students so that she could better understand what you said (sort of like a piece of music was her metaphor). Your response was that you did not really have time to write up your lessons in great detail, but that you were about to start a unit on governments and that you thought you could do it for one of the lessons. You agreed to meet her next week.

Next Saturday you shook hands and talked informally about the day. Eventually, you presented her with the lesson you scripted to illustrate what you did for about one hour of the day. You explained that if she had come into your room and had written down what you did, then this is what she would have most likely written. She thanked you and you again talked for a few minutes and again agreed to meet next week. This is the lesson that was shared.

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**Lesson:** Employing Place Mat and Team Analysis

**Grade:** Six

**Topic:** Government

## PART ONE: PLACE MAT

The 30 students were organized into eight groups by numbering them one to eight. I had six groups of four and two groups of three. The groups had an equal distribution of girls and boys – being sensitive to gender issues. They lettered themselves off A, B, C, D.

Students then moved to their groups and to their assigned areas. I have done a lot of group work with the students and they are skilled at basic social and communication skills – they can actively listen and paraphrase other’s ideas; I work on that a lot.

One person (person C) is selected (using lettered heads) to come and get a piece of paper on which another person in the group (person B) is to create a Place Mat. They had also done Place Mat twice before. They were reminded not to write in the center space as this is where their collective response would go later.

Students were also reminded that they would be provided with time to work alone in their area of the Place Mat and they must respect each other’s privacy and the need for silence for this first part. They were also told there would be time for group discussions and sharing of responses later in the lesson.

Students were told that today they were going to start a new Social Studies unit on ‘Aspects of Government in Canada.’ That today we wanted to extend their understanding of what the term government really means and that they were going to do that by first working alone and then collectively to come up with a best definition. They would then compare their answer to what is stated in the literature.

I started by asking them to think to themselves about what the term government meant to them. After about 20 seconds, I asked them to put their ideas down on their section of the Place Mat. They were to put what they think are the Key Ideas they wanted to include in their definition. They were told that they had five minutes to work on this and again were reminded to respect privacy and silence. Students were then given two minutes to star no more than two of the most important ideas to be included in their definition of govern-

ment. Then, starting with person A and suspending judgement, they then took turns using Round Robin reading their list to the group and then the two ideas they thought were most important. Note, that the next person (in this case B would write for A) would write the two key ideas in the center of the Place Mat. This was repeated for each person in the group. When finished, the group had the key ideas of the group’s definition to government in the center, with each person knowing their voice was heard and respected.

## PART TWO: TEAM ANALYSIS

Groups were then told that they had two minutes to re-read, reflect, discuss and re-write their definition to government before they would be asked to present their definition to the class and a marked assigned.

One student from one group is randomly selected to lead off with a presentation. The students were informed that the presenter can request information from his or her group members during the presentation. Members of other teams were told that they could make notes to help them remember what the group presenting said and to remember what was said as they would have to incorporate what they thought were the most important points into their presentation. Student’s responses were also recorded on the board in paraphrased form to assist students in keeping track of the comments.

After the student make the presentation of the key idea of government, the teacher, assigned them a mark of between 0 and 4 based on the accuracy of the response and the number of correct key components to the definition included in their response (see the score sheet below).

After the presentation, the teams were given 2

minutes to prepare a response to the presented ideas. At this point, the communication skills of Disagreeing in an Agreeable way and Accepting and Extending the ideas of others were received to make sure they focused on the ideas not the person and that their responses were respectful. Sample comments of each of these communication skills were on chart paper on the walls.

One person from another group is then asked to make one response to that group’s presentation and to add their own interpretation. This goes around until each group has responded. Once finished responding, the groups had to continue to listen to other groups to incorporate the new ideas as they emerged. After each group’s response, the teacher provided a number to guide their thinking towards they key elements of government. Several times I went back to earlier groups and asked them to respond again – to provide their evolving thinking and evolving mark. The students knew this was not a competition between marks; rather, it was they as a team of groups trying to collectively work this out. Students in the other groups clapped after each group’s presentation – to remind them that this was not a competition – but rather them trying to figure out the grand narrative related to government. Also, all members of a team must make a comment before a student can make a second comment – social skills of equal voice.

Once all groups have responded at least once, the definition is discussed and clarified and the assessment criteria are shared. We then have an open discussion related to how they functioned as a group in term of the social and communication skills they employed. They then discussed the process of Team Analysis – its strengths and weaknesses. We employ portfolios in our class. The students then made an entry related to government and its components and whether or not they saw aspects of government in this lesson.

<b>Team Analysis Team:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Person or group of People								
Make decisions and laws								
On behalf of the larger community								
Person or group Of People								
Protects the rights of citizens								
<b>MARK</b>								

Interestingly, when she met with you the following Saturday, she provided you with a rubric; you knew something about rubrics, but they were really not part of your 'bag of tricks.' She stated that her area was researching expert behaviour or intelligent behaviour. She also told you that people have always used rubrics – they just didn't make them explicit: rotten, not so good, good, and superb res-

taurants; horrible, okay, interesting, and wow dates. In there somewhere she talked about the fact that little correlation existed between one's IQ score and intelligent behaviour. You laughed when she asked: "If you were to be stranded in the middle of the Australian outback in 50 degree Celsius, would you prefer a math professor with an IQ of 175 or a fourteen year old aboriginal girl who has lived

her life in the outback?" You mentioned that it would depend on how long you wanted to live.

She went on to clarify the components of intelligent behaviour. The first thing was experience over time. That experience led to developing deep knowledge and numerous patterns in multiple areas. She also went on to

<b>COMPONENTS OF A LESSON RUBRIC</b>				
<b>Lesson Components</b>	<b>Level 1 Inadequate</b>	<b>Level 2 Passable</b>	<b>Level 3 Meets Expectations</b>	<b>Level 4 Excellent</b>
<b>Introduction to the Lesson</b>	<ul style="list-style-type: none"> <li>rarely makes links to students' past experiences</li> <li>has few students actively involved</li> <li>limited connection of students' involvement to objective</li> </ul>	<ul style="list-style-type: none"> <li>usually makes links to students' past experiences</li> <li>has several students actively involved</li> <li>adequate connection of students' involvement to objective</li> </ul>	<ul style="list-style-type: none"> <li>makes effective links to students' past experiences</li> <li>has most students actively involved</li> <li>clear connection of students' involvement to objective</li> </ul>	<ul style="list-style-type: none"> <li>effectively connects to students' past experiences and extends the experience</li> <li>has all students actively involved and engaged</li> <li>fully connects students' involvement to objective</li> </ul>
<b>Sharing and Discussing the Objective and Purpose with Students</b>	<ul style="list-style-type: none"> <li>objective stated but unclear and irrelevant to students</li> <li>objective seldom related to level of thinking</li> <li>limited explanation of how students will demonstrate learning</li> </ul>	<ul style="list-style-type: none"> <li>relevant objective is stated but without clear explanation</li> <li>objective sometimes related to level of thinking</li> <li>adequate explanation of how students will demonstrate learning</li> </ul>	<ul style="list-style-type: none"> <li>relevant objective stated with clear explanation</li> <li>objective usually related to level of thinking</li> <li>clear explanation of how students will demonstrate learning and why learning it is important</li> </ul>	<ul style="list-style-type: none"> <li>meaningful objective stated clearly in student language</li> <li>objective always specifically related to level of thinking</li> <li>extensive explanation given of how students will demonstrate learning and why learning it is important</li> </ul>
<b>Input</b>	<ul style="list-style-type: none"> <li>narrowly relates to the learning to be achieved</li> <li>rarely supports an appropriate level of thinking</li> <li>seldom facilitates meaningful inquiry</li> </ul>	<ul style="list-style-type: none"> <li>somewhat relates to the learning to be achieved</li> <li>sometimes supports an appropriate level of thinking</li> <li>sometimes facilitates meaningful inquiry</li> </ul>	<ul style="list-style-type: none"> <li>mostly relates to the learning to be achieved</li> <li>generally supports an appropriate level of thinking</li> <li>usually facilitates meaningful inquiry</li> </ul>	<ul style="list-style-type: none"> <li>highly relates to the learning to be achieved</li> <li>always supports an appropriate level of thinking</li> <li>almost always facilitates meaningful inquiry</li> </ul>
<b>Modeling, Demonstration</b>	<ul style="list-style-type: none"> <li>steps to be learned presented in an ambiguous manner</li> <li>seldom presented in a clear visual, auditory and tactile manner</li> <li>modeling does not relate to objectives of the lesson</li> </ul>	<ul style="list-style-type: none"> <li>steps to be learned presented in a somewhat clear manner</li> <li>sometimes presented in a clear visual, auditory and tactile manner</li> <li>modeling relates to some of the lesson objectives</li> </ul>	<ul style="list-style-type: none"> <li>steps to be learned presented in a clear manner</li> <li>usually presented in a clear visual, auditory and tactile manner</li> <li>modeling corresponds to most of the lesson objectives</li> </ul>	<ul style="list-style-type: none"> <li>steps to be learned presented in a very clear manner</li> <li>always presented in a clear visual, auditory and tactile manner</li> <li>modeling directly corresponds to all of the objectives</li> </ul>
<b>Check for Understanding</b>	<ul style="list-style-type: none"> <li>actively involves few students</li> <li>overt response used without feedback</li> <li>response to results seldom appropriate</li> </ul>	<ul style="list-style-type: none"> <li>actively involves some students</li> <li>overt response used without feedback</li> <li>response to results sometimes appropriate</li> </ul>	<ul style="list-style-type: none"> <li>actively involves most students</li> <li>overt response used and students often receive feedback</li> <li>response to results usually appropriate</li> </ul>	<ul style="list-style-type: none"> <li>actively involves all students</li> <li>overt response used and students always receive specific feedback</li> <li>response to results always appropriate</li> </ul>
<b>Practice/ Application</b>	<ul style="list-style-type: none"> <li>unclear relation to objective or level of thinking</li> <li>not clearly related to what was modeled</li> <li>few students actively participating</li> <li>weak link to objective</li> </ul>	<ul style="list-style-type: none"> <li>somewhat clear relation to objective or level of thinking</li> <li>related somewhat to what was modeled</li> <li>limited participation by most students</li> <li>relates somewhat to objective</li> </ul>	<ul style="list-style-type: none"> <li>adequate relation to objective and level of thinking</li> <li>related to most aspects of the modeling demonstration</li> <li>active participation involves most students</li> <li>mostly relates to the objective</li> </ul>	<ul style="list-style-type: none"> <li>clear, precise relation to objective and level of thinking</li> <li>related to all aspects of the modeling /demonstration</li> <li>active participation involves all of the students</li> <li>relates to the objective</li> </ul>
<b>Summary/ Extension</b>	<ul style="list-style-type: none"> <li>actively involves few students</li> <li>summary completed entirely by teacher</li> <li>weak link to objective</li> </ul>	<ul style="list-style-type: none"> <li>actively involves some students</li> <li>summary completed entirely by teacher, with some involvement of students</li> <li>relates somewhat to objective</li> </ul>	<ul style="list-style-type: none"> <li>actively involves most students</li> <li>most of summary completed by students, some by teacher</li> <li>clear link to objective</li> </ul>	<ul style="list-style-type: none"> <li>actively involves all students</li> <li>summary completed by students</li> <li>strong link to objective</li> </ul>

explain that experts always reflected; reflection helped them make connections between patterns and develop new patterns. (She added, that those who do not reflect and connect are locked into existing patterns; as life changes, they do not keep up.) Critically she them emphasized that experts also have an extensive repertoire of skills, tactics, and strategies that they integrate in multiple ways to respond to patterns as those patterns emerged — often in the moment. An interesting point she shared was that it took ten years of hard work before one becomes an expert.

She then showed you how she developed the rubric from the discussion and the lesson you shared. She was hoping that you might appreciate her comments concerning your lesson. (The rubric she designed is provided on the previous page)

After glancing through the rubric, you realized that what you did was complex and very integrative – that your actions were interconnected and your decisions were based a lot on what you understood about your students. You thanked her for making what you did more visible in terms of what really does make a difference. You again talked for about another fifteen minutes and then left. On the way home you started to think about your classroom actions. You knew you didn't like journal writing, but you thought, you would write down your thoughts about how your lesson went – what worked, what didn't. Perhaps you would share it with her next week. What you had prepared for her is written below.

**Lesson Reflection**

I knew we were going to start this new unit on Aspects of Government in Canada and I felt

that this combination of Place Mat and Team Analysis would work to introduce and examine the concept of government in this class. Government has four components in the definition so I used those four components for the analysis of their comments. In earlier discussions, they had an unclear understanding of what government meant. Some thought the government was Jean Chretien. Team Analysis also parallels the process of critical thinking that is our school's growth plan.

Although I knew that Team Analysis is a complex cooperative learning strategy, and this was the first time I had used it (first time for the students as well), I was amazed just how well the lesson actually went. (Maybe I was expecting the worst for a first attempt.) I numbered off the students to form groups and then had them arrange their desks. Place Mat is something they enjoy – I think because I don't

<b>INSTRUCTIONAL ORGANIZERS</b>					
	<b>Level 1 Inadequate</b>	<b>Level 2 Passable</b>	<b>Level 3 Meets Expectations</b>	<b>Level 4 Excellent</b>	
<b>Weaving in Aspects of Cooperative Learning</b>	<ul style="list-style-type: none"> <li>• goal/objective not clearly stated</li> <li>• not all group members responsible for accomplishing goals</li> <li>• students not asked to sit close or not able to</li> <li>• social skill announced but not taught</li> <li>• no opportunity for student and teacher evaluation, only teacher evaluated</li> </ul>	<ul style="list-style-type: none"> <li>• goal/objective somewhat stated clearly</li> <li>• most group members responsible for accomplishing goals</li> <li>• students sit close but not asked to face each other</li> <li>• social skill discussed but not developed with students</li> <li>• little opportunity for student and teacher evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• goal/objective mostly stated clearly</li> <li>• all group members responsible for accomplishing goals</li> <li>• students asked to sit face-to-face, but not monitored</li> <li>• social skill taught but not monitored</li> <li>• some opportunity for teacher and students to evaluate academic/social learning</li> </ul>	<ul style="list-style-type: none"> <li>• goal/objective stated clearly</li> <li>• all group members equally responsible for accomplishing goals</li> <li>• students sit facing each other, monitored</li> <li>• social skill explicitly taught is meaningful, and monitored</li> <li>• both teacher and students evaluate academic &amp; social learning</li> </ul>	
<b>Applying Bloom's Taxonomy &amp; Framing Questions</b>	<ul style="list-style-type: none"> <li>• wait/think time seldom given</li> <li>• appropriate responses rarely used to interpret student responses</li> <li>• incomplete feedback given at some point in the lesson</li> <li>• range of thinking levels seldom used according to students needs</li> </ul>	<ul style="list-style-type: none"> <li>• wait/think time sometimes given</li> <li>• appropriate responses occasionally used to interpret student responses</li> <li>• adequate feedback given as soon as possible</li> <li>• range of thinking levels sometimes used according to students needs</li> </ul>	<ul style="list-style-type: none"> <li>• appropriate wait/think time usually given according to level of thinking required</li> <li>• appropriate responses often used to interpret student responses</li> <li>• somewhat thorough feedback always given as soon as possible</li> <li>• range of thinking levels often used according to students needs</li> </ul>	<ul style="list-style-type: none"> <li>• appropriate wait/think time always given according to level of thinking required</li> <li>• appropriate responses always used to interpret student responses</li> <li>• thorough feedback always given as soon as possible</li> <li>• range of thinking levels always used according to students needs</li> </ul>	
<b>Weaving in Multiple Intelligences:</b>	<ul style="list-style-type: none"> <li>• Linguistic • Spatial</li> <li>• Logical-Mathematical</li> <li>• Bodily-Kinesthetic</li> <li>• Interpersonal/ Intrapersonal</li> <li>• Musical • Naturalistic</li> </ul>	<ul style="list-style-type: none"> <li>• opportunity in lesson for students to demonstrate their learning through multiple intelligences</li> </ul>	<ul style="list-style-type: none"> <li>• some opportunity in lesson for students to demonstrate their learning through multiple intelligences</li> </ul>	<ul style="list-style-type: none"> <li>• opportunity often provided in lesson for students to demonstrate their learning through multiple intelligences</li> </ul>	<ul style="list-style-type: none"> <li>• meaningful opportunities provided in lesson for students to demonstrate their learning through multiple intelligences</li> </ul>

# Pic

ments were discussed that were not voted in (e.g., monarchy).

One problem was the use of the skills of 'Disagreeing in an Agreeable Way' and 'Accepting and Extending the Ideas of Others'. I found I should have repeated the directions a couple of times during the process; they tended to forget to Accept and Extend or Disagree Agreeably. What happened was that the students accepted without identifying the other group's ideas and they also did not disagree – I think I need to work more with them on the idea of how to Disagree Agreeably and how to employ both these skills more effectively.

I could also see that a couple of the students were a bit anxious when they had to share publicly. Perhaps I should have allowed them the right to pass if they did not feel comfortable sharing. I will have to think more about that. Overall, for a first attempt I thought it went well.

Next week when you went to the park, the bench was empty; you never did see her again. But you really started thinking and reading more about what it means to be instructionally intelligent and how one goes about meeting

the diverse needs of students. End of Scenario.

## Back to the Present

What made me connect the idea of expertise to my teaching was a conversation I had with the person who fixed my water heater problem. Three winters ago I had a new hot-water heater installed in a cottage. The cottage was in the middle of nowhere. The water heater would fire up; then sixty seconds to a few minutes later (for no apparent reason) it would go out; pause, restart ... etc., etc. An experienced plumber I knew was called – an expert plumber. Unfortunately though, although he has installed them, he did not have a solution – not because he was not a good plumber; he had never confronted this pattern. He suggested calling the gas fitter/plumber (an older gentleman with greying hair and a kind face) who had installed the water heater. The gas fitter said, "Oh, you're the one in that house that has a long run (of plastic pipe) to vent that heater out the side wall. Doesn't happen very often but your house is situated in an open space, and when the wind blows from a certain way at a certain speed, it creates a vacuum when the pipe is that far from the hot water heater. That vacuum shuts the furnace off. Don't worry, it will be fine by morning." The gas fitter was right... the best part, no charge. I was impressed with his knowledge

and I thought to myself that this person had what comes with experience – and experience is what I have as a teacher – I have things that the person off the street does not have.

So what does it mean to be an expert? What does it mean to demonstrate intelligent behaviour in terms of how we teach students? It seems that what we are asking of teachers is to take the influence of their personality and to integrate (as a jeweler would jewels; and a weaver wool) their understanding of content, of instructional processes, of assessment, and their understanding of the learner. And, at a more complex level, to do it collectively (within the school and within the district).

So, what is expert behaviour? At the broadest level, expert behaviour is what people do as the result of their intense and thoughtful effort over time. And, from my reading of the research, it takes about ten years of intense effort to become an expert in anything (surfing, chess, piano, skating, etc.)

Now if intelligent behaviour is what makes a difference in schools and classrooms, then why does something that appears so simple, so obvious, so worthwhile, play out so infrequently? The answer is simple; the solution complex. We do not collectively integrate what is known about how students, school staffs, and district staffs learn. Nor do we value teachers as life-long learners. This unwillingness to act wisely — as a collective — is education's tragic flaw, our folly (a folly referring to a course of action even though you know that action is not in your best interest). The players in the process of change (university instructors, educational consultants, researchers, writers, principals, teachers, central office administrators etc., too infrequently fail to work wisely, as a collective, in the enactment of change; in opposition, their personalities, politics, and need for power take sway. The net effect is regression towards the mediocre; we are socialized towards mediocrity.

# Pic

use it that often and also because they get a chance to work along and then in groups. I worked hard on giving clear directions as to what the expectation would be for this lesson, including having them point to the section of the place mat that they would be writing on the need to respect silence and privacy. All students complied with these expectations because they all wanted to participate in this learning experience (that is not always the case).

The Place Mat/Team Analysis integration certainly encouraged superior and equitable sharing of responsibilities within groups and ensured accountability since all students needed to record their own ideas of government and then they were allowed to share only their responses that they were most confident with. This learning strategy also gives them ownership of their responses and learning and forces them to listen, stay 'tuned in' and engaged in the lesson as they will be called on randomly to demonstrate their understanding by sharing their responses. The breaks between various presentations allowed the students time to do the talking they needed to do in order to revise their own responses. The assigning of a 'mark' also motivated the students to listen and critically evaluate each other's responses and then to actually improve on their own work. This is what I found was most significant about the use of this strategy. The group presentations (government definitions) that the students developed were very impressive. They were sophisticated, detailed, and accurate and were beyond what I had honestly expected the students to develop. Most importantly, however, the students had a clear understanding of what they had written and the process allowed for in depth discussions of what government really was and what it wasn't in the concluding discussions. For example, several groups stated that governments must be 'voted in' in their definitions. This led to a discussion of this issue where examples of govern-

# WHY DON'T WE WORK SMARTER? AND WHAT CAN WE DO?

## Why Don't We - Answer One:

Entrepreneurialitis. This term refers most specifically, but not exclusively to, the consultants and researchers who choose to present and market ideas at the expense of what makes a difference in the classroom (for example, the unthinking application of innovations 'in the singular.')

Given the 'search-for-a-panacea' mentality resulting from the never-ending press to change; teachers are ripe for the picking for those consultants/researchers who present their 'wares' in the singular with a corresponding lack of wisdom concerning the conditions under which teachers acquire and transfer learning. The singular refers to attending to and encouraging the application of one innovation (such as Jigsaw or Reading Recovery, or Mind Mapping, or one approach to classroom management or one approach to literacy etc., without taking time to reflect and understand the interdependence that exists between these processes. When we fail to sense that Cooperative Learning, Mind Mapping, Venn Diagrams, Concept Attainment, Inductive Thinking, Lesson Design, Framing Questions, Multiple Intelligences, Brain Research and deBonos CoRT program etc., not only depend on each other, but can be integrated in a variety of ways, then we are unwisely (whether intentionally or unintentionally) inhibiting the design of powerful learning environments.

## What to Do - Answer One:

Stop trying to implement single innovations; stop looking for panaceas – they are not there. Certainly one has to play with an innovation in isolation initially to get 'good' at using it; then push into looking at how it can work together with other innovations. Stay with an innovation long enough to apply it effectively. Learn in teams, go back and practice and share what you are doing. For example, Concept Attainment data sets are time consuming to create – share data sets provincially on a web page. Realize that whenever you use something in the classroom for the first time it will be clunky – you will hit the infamous and inevitable implementation dip – where it gets worse before it gets better. That said, if you learn in teams, you can go back and discuss what is and what is not working and you will shift out of the inevitable dip much more quickly. Note: make sure the prin-

cipal is part of the team. It is called the principal principle; the further the principal is from the innovation the more quickly he or she will expect you to implement it – with fewer resources and less support that is necessary. Have you considered that having the principals and teachers in different unions is as about as dumb an idea that was ever implemented?

## Why Don't We - Answer Two:

Universities, Boards of Education, Unions, Principals, Teachers, Parents, and the Business Community too frequently work at cross-purposes. Simply stated, the players of change; those needed to make a difference, do not demonstrate intelligent behaviour related to making a difference for students and teachers – they do not think or act collectively/systemically about change over time and this folly is perpetuating mediocrity.

## What to Do - Answer Two:

In terms of instruction, so much instructional information (and other stuff) is raining down on teachers' heads. For example, think of brain research, multiple intelligence, critical thinking, cooperative learning, portfolio assessment, mind mapping, Reading Recovery, Whole Language, curriculum changes, ad infinitum. One has to consider the weather; whether or not teachers can meaningfully implement everything they are being asked to implement. Each of the stakeholders are asking us to make changes – anyone of which can take a considerable amount of time to effectively implement. Even simple innovations can take several years before one is skilled at implementing it. Those who are identifying all the things that need to happen have to work in concert. If they do not, they will work at cross-purposes even though their intentions are honourable. If they

really cared, universities, unions, school districts, ministries, parents, the business world would get together, look at the existing wisdom regarding what makes a difference, and then, in concert, work at it systemically over time. We are currently doing that in Western Australia. The Teachers' Union, the Ministry of Education, the universities, and the school districts are working at working together. It is hard, we are going slow – but in certain things slower is faster and starting small and thinking big is wiser. We are also starting a similar process in Penticton with three districts. In York Region in the Toronto area, we are in year two of a project.

What makes this so difficult connects to what was shared in the scenario that started this article: teaching is complex yet elegant. It is one place where art (valuing multiple perspectives) and science (finding the best way) merge. And what makes it so exciting is that no one best way exists in the design of powerful learning environments.

## SO, HOW DOES THIS ARTICLE END?

I guess I could simple say: "And everyone was run over by a truck ... the end." Or, I can open up another door as if to start another article. So I have compromised. Here comes the truck that will open the door that will allow this article to end.

In 1911 Charles DeGarmo wrote a book titled: *Interest and Education: The Doctrine of Interest and Its Concrete Application* (New York: The Macmillan Company).

The purpose of this book was to make a more concrete application of the doctrine of interest to the matter and methods of education. The

author argues that too often the development of the intellect does not include the conditions of interest. Besides intelligence, the student also has feelings and volition. Feelings include a group of mental states we call instinct, impulse, emotion, desire, interest, pleasure, pain, etc. Volition is the will to make change to make decisions.

He also argues that learning must involve more than mental drill; it must impart knowledge capable of arousing enthusiasm; a respect for volition. It must reveal nature and social institutions in such manner that desirable and permanent disposition toward them may be developed.

He starts the book by illustrating the essence of interest by first talking about the Inuit and their interests. He illustrates how they live a simple life, their interests relate to their day to day living – it is about their survival in every sense of being human – every thing they do is about them and for them – it is their story. He then compares that same effort when one is ‘surviving’ but at the expense of someone else’s survival – someone else’s story. He employs the serf/nobleman relationship in medieval times. The serf or slave does not see their efforts as related to their ‘interests.’

Tacitly, the teacher/student relationship and the teacher/student/ministry/district relation-

ship and the union/ministry/district and the university/union/district/ministry relationship (take any combination) can be seen in the same light. Unfortunately though, the students and teachers are more likely to be the serfs. You must ask yourself: Where is the space for multiple stories of how we each learn – for the intersubjectivity of learning?

He then discusses the difference between clear ideas and vivid ideas. A clear idea produces inner illumination without the tendency to release energy. A vivid idea is one that tends to pass into action. It stirs up and releases energy; it is charged with emotion. Vivid ideas can also be clear ideas – they simply take it further. So one illuminates; the other effects results.

A worker may be interested in getting the paycheck (think students doing school work to get out of school; teachers covering the curriculum in order to get paid) for the work done, but not like doing the work. He calls this drudgery. Better that the means and the end are both interesting.

In terms of interest and thinking, even if there is comprehension, there is not the type of thinking that is worth striving for. The usual results of thinking relate to the student holding both fact and exposition by force of memory and not through interest.

Conclusion: So what is instructional intelligence? I am not sure; however, I do know that it will be felt and acknowledged by students – it will illuminate it will release energy and that implies acknowledging and responding to diversity and the diversity within diversity. It will not occur in a serf/noble-person culture—this type of rigidity mitigates against intelligent behaviour. It will not occur if teachers are forced to focus on clarity for effects on tests. We have to collectively make sure that students and teachers become, as Pauline Lang once said: “...consciously competent and not simply accidentally adequate.” We will have to work together with all of our diversity. Intelligently.