

# W W I N S I D E R

VOLUME 4 : NUMBER 02 : JANUARY 17, 1986

## EXTENDED BOOKSTORE HOURS

The Bookstore will be extending its hours of operation from January 18th until January 31st. The hours will be:

Monday - Thursday : 08:30 - 20:00

Friday : 08:30 - 16:00

Saturday : 09:00 - 15:00

JAN 22 1986  
VANCOUVER VOCATIONAL INSTITUTE  
LIBRARY

## HAIRDRESSING SPECIALS

### L A D I E S

Have your permanent wave or coloring done by our experienced students and receive free of charge a shampoo set or shampoo blow dry within two weeks.

Also . . . . .

Monday through Thursday, purchase a hair cut and receive free of charge a shampoo set or a shampoo blow dry. (This does not apply to Fridays!!)

Not only that but . . . . .

Come in for a perm at 08:00 and you'll pay only \$8.00 instead of the regular \$12.25!

\*\*\* These specials will be offered until March 27, 1986. \*\*\*

LK

"JOURNEY" by Robert Massie and Suzanne Massie . . . To the children

"I always had wanted for them the widest possible contacts with the most varied people. I wanted them to understand the qualities of all ages, to profit and respect the wisdom of the old, to learn from the man who works with his hands. I have the deepest suspicion and distrust of the truths of "intellectuals". I do not like the snobbism of the intellect, the elitism, the narrow sense of superiority that sometimes accompanies the purely academic mind.

There is poetry in the language of a gardener who understands the secrets of the earth. For me, a farmer is a wizard, quite as much as a physicist and each nation I have known has seen some of the special facets of the jewel that is life. More than anything else, I had dreamed of expansive horizons for my children. I did not want them to grow up thinking that they, or their nation alone, had found all the answers".

EHS

## LIBRARY FILMS

January 21 - WHISTLING SMITH

Sergeant Bernie "Whistling" Smith pounds the beat on Vancouver's east side hang-out of petty criminals, down-and-outs, and a variety of unsavory characters. His policing is unorthodox. To many a young drug user, petty thief, or young woman drawn into prostitution, he is more than the iron hand of the law. He is also counsellor and friend. Here is a revealing insight into one side of big city life and a tough cop with a big heart.

January 28 - WELCOME TO PARADISE

Filmed on location in Barbados, St. Vincent, and the Grenadines, this film reflects the deep concern that the island inhabitants have about the impact of tourism on their economy, their culture, their politics and social values. Whereas tourism has the potential to enrich people by exposure to each other's ways and culture, leaders here charge that it is reinforcing the prejudices of race, class and culture.

## VANCOUVER COMMUNITY COLLEGE

If you need to know....



Howard Carter (left) buys a ticket on the Mustang from King Edward Campus Division Chairman Sam Lewindon (centre), while KEC Principal Harry Pankratz looks on.

### WIN A MUSTANG ... CAR THAT IS!

Like to play the ponies? Then get ready with your \$2. The Vancouver Community College Educational Foundation has officially launched its raffle for a 1975 gray and maroon Ford Mustang, restored to show room condition by students in King Edward Campus's auto mechanics and auto body repair programs. The car was donated by Howard Carter, president of Carter Pontiac Buick Ltd. and a foundation board member. Students in Langara Campus marketing and sales program are handling the display and ticket sales and they will have the car at locations all across the city before the draw at the end of March. So have your \$2 ready! All the money from the raffle goes to provide student aid at King Edward Campus.

### DO IT SOON, TIME IS SHORT.

Registration for part-time courses is going ahead full steam. If you haven't received the Vancouver Community College flyer in the mail, call 875-8200 and one will be sent to you. There are hundreds of opportunities to try something new and exciting. Whether you want to polish your job skills or take up a new leisure pursuit, we've got the ticket.

### FUN FOR THE CHILDREN and PARENTS

If you have little ones you might want to try Recipes for Fun - Creating a Playspace in Your Home. In one session, Thursday evening, January 23, 8 to 10 p.m., you'll find out how you can create an adventure play area at home for your child without creating a mess for you. The cost is \$10. Call 875-8200 for more information.

### LEARN HOW TO SAVE A LIFE

Once again, Continuing Education at VCC is offering a series of CPR programs. In one session you can learn the skills that could save someone's life. There are a number of different times and locations. For more information call 875-8200 and ask about the Heart-saver programs.

### ROMANTIC NOVELS MAKE YOU RICH?

Could you be the next Barbara Cartland? Find out how to write the formula romances that have taken the grocery store checkout counters by storm. Enrollment is limited. This session runs Saturday, January 25, 9:30 a.m. to 3:30 p.m. at Langara Campus. The cost is \$35. To register call 324-5322.

### PUT YOUR FINANCIAL LIFE IN ORDER

Is financial anxiety getting the better of you? Introduction to Financial Planning can help you get your financial life in order. Build a financial plan from the ground up. Learn to analyze your net worth and create an effective budget. This session runs Tuesday evening, February 4, 7 - 9:30 p.m., at King Edward Campus. The cost is \$15. To register call 875-8200.

### PIONEER EDUCATOR DIES

It was with great sadness that Vancouver Community College noted the passing of Dean H. Goard on January 5. He was a pioneer in B.C. education. Goard was the founding principal of the college's Vancouver Vocational Institute in 1949, a position he held for 12 years. He became principal of the B.C. Institute of Technology in 1967, retiring from that position in 1974.

### GENEROUS GENSTAR

The electrical department at Vancouver Vocational Institute was recently given a three generator paralleling switchboard and distribution system by North Vancouver's Genstar Shipyards. The equipment will play an important role in student training. The equipment students used previously was so antiquated replacement parts were impossible to get. The purchase of new equipment would have cost the college more than \$20,000, so this gift came at a particularly good time.



# INNOVATION ABSTRACTS

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## TEACHING THINKING SKILLS

What can you do to teach thinking? I am going to condense what I take to be the trend of contemporary research into seven principles, each one of which seems to enhance the teaching of thinking, whether in a subject matter context or in a stand-alone course. For convenience, let us use the one word "wit" to stand for problem-solving ability, inventiveness, and whatever other capacities for thinking one might want to develop. All seven of the principles have to do with two questions: "What is wit made of?" and "How does it get into your head?" The general answer is: Wit in considerable part is made of thinking *tactics*, and we can improve students' thinking by imparting a greater and more effective repertoire of tactics. Three principles follow from that, principles substantiated to some degree by existing research.

**First Principle:** *Foster a tactical attitude.* This broadest principle is perhaps the most important, too. It recommends teaching in such a way that students begin to attend to their own processes and consider the tactics they use to deal with a particular kind of situation, such as solving a math problem or writing an essay. By and large, we tend to focus on the product in progress, the essay, for instance, or the problem solution, with little attention left over for the process by which we create that product. A good deal of research suggests that skilled problem solvers are often rather aware of the processes they use and that less skilled problem solvers can learn to attend to and enhance their own processes simply by focusing on them from time to time and proceeding more mindfully.

**Second Principle:** *Make tactics explicit.* This can mean one of two things. It can mean direct teaching of explicit tactics—for instance, for mathematical problem-solving or writing. In the case of mathematical problem-solving, students can be taught strategies for making a diagram, considering a special case, or breaking problems down into parts. But making tactics explicit does not necessarily mean "spoon-feeding" tactics to the students. Direct teaching aside, it can also mean establishing an instructional context in which the attention of students is drawn to the tactical side of things, and they are provoked into designing their own tactics and explicitly articulating their tactics to themselves. Such an approach has been used for remedial math education where students are asked to problem-solve by sitting with one another in pairs and talking about how they go about doing what they are doing.

In regard to making tactics explicit, many people feel that this is somehow unwise, that what you should do is set up a situation which is rich with the kind of thinking involved and expect students to soak it up. Regrettably, the evidence is that this does not work, except for the more able student who will detect the pattern even when it is not made explicit. Beware of the myth of "soaking up!"

**Third Principle:** *Students need managerial as well as particular tactics.* Managerial tactics mean tactics for controlling the overall process of problem-solving or writing or whatever. Particular tactics are matters of handling particular sub-problems that arise, like writing a paragraph or constructing an example. But besides that, there is evidence that students need overall task management tactics, such as asking themselves these questions every few minutes: "What approach have I been taking?" "Has that approach been working out well?" and "Should I try a different approach?" Unless these high-level questions are asked fairly often, students tend to lose their way amid the forest of lower-level tactics they may have acquired.

These three principles relate to the general point that wit is made up partly of tactics. Four more principles are related to another notion—that wit is somewhat context specific. Research over the past decade has disclosed that in such areas as mathematical problem-solving, history, problem-solving in physics, and so on, there are a number of tactical principles that are particular to the discipline. You cannot expect to teach a general problem-solving course that applies to everything in sight and have that course empower students widely across all subject matters. What do we do about this?

**Principle Four:** *Teach to the task.* Think about what you want students to do and teach to that. For instance, if you want students to reason well in writing essays, you do not teach symbolic logic. True, symbolic logic may have something to do with reasoning well in essays, but characteristically, not enough; it is too different. Teach reasoning in essayistic contexts if you want reasoning in essayistic contexts. Oddly enough, it is one of the



standard pitfalls of education that to get result *A* we teach *B* and hope it will somehow transfer to *A*! Why not teach *A* in the first place?

Principle Five: *Teach knowledge in action*. There is a problem in psychology we call the problem of inert knowledge. For instance, it is commonplace in medical training where students memorize a large body of facts; they prove unable to marshal these facts when it comes to diagnosis and treatment. The remedy for inert knowledge is to teach knowledge in the context of active problem-solving, where the knowledge is put into use as it is being acquired.

Principle Six: *Teach for transfer*. In the past, it has been thought that if you learn some general principle in context *A*, it would handily transfer to contexts *B*, *C*, *D*, and *E*. In the last decade, the problem of transfer has emerged as one of the principle difficulties of teaching thinking skills. It turns out that people often do not generalize; they do not carry principles over to other contexts. We have to fight against this by teaching for transfer.

There are two broad ways to do this. One is by varied practice. Very often in instructional contexts the practice is narrow. A few types of problems repeat over and over, and this tends to lead to learning that is context-bound. If you calculatedly and drastically vary the kinds of problems to which principles are being applied, you can help generalize the learning. The second method is explicit abstraction and application. That is, students are directly provoked to generalize and apply in odd circumstances what has been taught.

Principle Seven: *Bear in mind the generality-power trade-off*. As mentioned previously, wit is somewhat context specific; but it is not completely context specific. There are some general strategic principles that cut across problem-solving of all sorts. For instance, spending time defining the problem is a time allocation principle that applies in nearly any context and one that is widely neglected, too. In trying to capture both the generality and the context specificity that are there, psychologists have come to speak of a generality-power trade-off. This means that the more general a tactical principle is, the less power it has in any one context. If you want math scores and math scores alone to go up, then you teach to the task, focusing on general and specific tactics that apply to mathematics. Some of them do not apply in general. If you want gains on a broad front, you may teach tactics of general problem-solving; and you will find gains on a broad front, but modest ones. This trade-off between generality and power has to be kept in mind when you make choices between such options as a stand-alone course which is aimed at affecting change over a wide range of subject matters versus integrating the teaching of thinking skills into a particular subject matter.

Let me review. "What is wit made of?" and "How does it get into your head?" I have argued that, according to recent experiments, it is quite possible to teach thinking skills. And I have urged that we, in fact, know some general principles to guide the teaching of thinking skills both in stand-alone courses and in subject matter contexts. The principles again were: foster a tactical attitude, make tactics explicit, teach managerial strategies as well as particular strategies, teach to the task, teach knowledge in action, teach for transfer, and bear in mind the generality-power trade-off in your instructional planning.

I find it very encouraging that at this point in time we have even those broad principles to guide such efforts. Because, as broad as they are, those principles do argue against a number of approaches to the fostering of thinking skills that have been taken in the past. I am encouraged by the notion that we may be able to engineer such instruction

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