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ABSTRACT
          Ontario's College Standards and Accreditation Council
(CSAC) devised a plan to enhance three dimensions of college
education: general education, generic skills; and vocational or
professional education. The CSAC designates generic skills as
practical life skills essential for both personal and career success,
defining these practical, portable skills as: (1) communications,
including language and literacy; (2) mathematics, including numeracy
and mathematical concepts; (3) computer literacy; (4) interpersonal
skills; and (5) analytical skills, including critical thinking and
problem solving. George Brown College (GBC) has invested considerable
effort into developing its own understanding of three-dimensional
education, including the formation of task forces and subcommittees
to address each dimension. The Generic Skills Subcommittee made
recommendations as to what those skills should encompass and how
instruction and skill development should be carried out. This report
on the Generic Skills Subcommittee's discussions and recommendations
begins by providing background on the CSAC's province-wide plan for
college education, including a discussion of who determined the five
skill areas and why; whether outcome-based education is the best
approach for generic skills; the purpose of generic education; how
generic skills relate to equity issues; what constitutes
post-secondary levels for generic skills; and problems associated
with the short timeline provided in the CSAC's plans. After part 2
explores the process used by GBC to develop a new "academic
architecture" for the college, part 3 presents GBC's definition of
generic skills, part 4 presents the recommendations of the fall 1993
Generic Skills Subcommittee, and part 5 discusses the implementation
of recommendations common to the generic skills focus groups. Parts 6
through 10 focus on each cluster of generic skills, including lists
of outcomes, measurement tools, evaluation criteria, essential
skills, and recommendations. Finally, part 11 presents the
Subcommittee's list of items for further attention. Contains 15
references. (KP)

GENERAL EDUCATION TASK FORCE

THE GENERIC SKILLS

SUBCOMMITTEE FINAL REPORT

TO THE ACADEMIC PLAN

STEERING COMMITTEE

GEORGE BROWN COLLEGE
JANUARY, 1994
(SECOND PRINTING)

NOTE REGARDING SECOND PRINTING

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A NOTE OF THANKS

There are many people to thank. Looking at generic skills at George Brown has involved dedicated, talented, and above all generous people from across the college. They are to be thanked for attending innumerable meetings and grappling with difficult issues in the interest of making a contribution to the Academic Plan. The names of those who sat on subcommittees and focus groups working their way to a set of generic skills recommendations are listed at the end of this report.

This writer would like to take this opportunity to express personal thanks to those people for their patience and generosity. The discussion was always stimulating. It was a privilege to be able to benefit from the rich expertise at this college.

The Five Activities are: *appearance, speech, seeing, hearing, and thinking.* The virtue of appearance is respectfulness; that of speech is accordance with reason; that of seeing is clarity; that of hearing is distinctness; and that of thinking is penetration and profundity. Respectfulness leads to gravity; accordance with reason to orderliness; clarity, to wisdom; distinctness, to deliberation; and penetration and profundity, to sagacity.

An 1121 B.C. Chinese set of generic skills ("The Great Norm" <u>Book of History</u>)

1. PREFACE

The College Standards and Accreditation Council (CSAC) has begun its work to rejuvenate the Ontario college system. Its plan is based upon Vision 2000 which outlined a renewed mandate for the college system reflecting broad consultation with stakeholders. Its task is to enhance college education so that it is truly three dimensional. General education, generic skills and vocational or professional education are those three dimensions. This multi-dimensional approach to post-secondary curriculum recognizes that education although certainly involving training for a profession is more than that. People have professional needs but have personal and other needs as well. Colleges are meant to prepare students for careers, but they are also meant to be more than training institutes. In addition, the Council will oversee province-wide standards for accreditation of programs. These standards will support the quality of post-secondary education in the colleges and assist the student in moving from career choice to career choice and from college to college.

This project is proceeding at a difficult time in the province. Commitment to renewal must be placed against the background of economic constraints. Crafting changes and implementing both general education and generic skills with the accompanying assessment and tracking mechanisms while colleges are running deficits and the social contract permits little breathing space means that the process will be painful if not tortuous. It requires a complete reassessment of everything we do and accommodation to a system-wide vision. That it will be painful is no reason not to proceed. In fact, the system must proceed with its transformation so that the colleges will offer a vital education in a world that is changing all about us. The demands of education in the twenty-first century will be different from those in the sixties and seventies. CSAC's mission is to help the system prepare.

Generic skills and general education are important parts of that preparation. They are not new concepts but have undergone considerable rethinking. The two were so closely linked in the early days of the college system that they were indistinguishable for many people. Generic skills courses were cited as fulfillment of general education requirements. CSAC has changed that. It has

two Councils. One of those Councils works on general education while the other works on generic skills. The term "general education" now designates

> the broad study of subjects and issues which are central to education for life in our culture. Centred in, but not restricted to, the arts, sciences, literature and humanities, general education encourages students to know and understand themselves, their society and institutions, and their roles and responsibilities as citizens (Vision 35).

It must also provide students, wherever possible, "...opportunity to exercise choice in the selection of their general education courses" (Johnston 23). Thus, "a broad study" and "opportunity to exercise choice" characterize general education as it begins to emerge into the daylight. Generic skills, on the other hand, now designates "practical life skills essential for both personal and career success" (Vision 35). The CSAC Establishment Board Report notes that the Establishment Board defines these practical, portable skills as:

- communications (including language and literacy),

- mathematics (including numeracy and mathematical concepts),

- computer literacy,

- interpersonal skills, and

- analytical skills (including critical thinking and problem-solving)   (Johnston 16).

The key concepts are "practical", "portable" and "skills." Generic skills are also distinguished from general education in the way that CSAC will handle them. The General Education Council will determine aims broad goals, and content areas but will leave general education outcomes to each college. The Generic Skills Council, however, will determine generic skills outcomes for the system. Students will be asked to achieve particular standards in practical skills throughout their college experience. Thus, achievement of essential generic skills levels is not a matter of choice. Standards will be maintained across the province.

George Brown College invested considerable effort into developing its own understanding of three-dimensional education. The Academic Plan involved numerous task forces, committees and subcommittees. A running joke throughout the process was that at any given time there were more subcommittees than George Brown faculty. This observation points out how involved the college community was. A great many people have generously given time, effort and thought to shaping a new "architecture."

The Generic Skills Subcommittee of the General Task Force was asked to consider the five generic skills areas as determined by CSAC. More than sixty people were involved in the process at one time or another. Together, they made recommendations as to what those skills should encompass and as to how instruction and development of the skills should be carried out.

Before looking at those recommendations, it would be prudent to consider a few important questions. These questions relate to assumptions and pitfalls. When a system is asked to change as quickly as ours, there is a danger of moving too quickly in directions which have not been thoroughly considered. Concerns pertaining to the implementation of generic skills were raised at various points during the process of the generic subcommittee work. What follows summarizes some of that discussion. Raising these questions here is meant to provide a context for a thoughtful evaluation of the recommendations which follow.

Question 1:   Who determined the five skill areas and Why?

The subcommittee has worked with a predetermined set of skill areas. This prepared package made the work easier in that the work to be done was already organized for it. Where did the package come from? Different sets of skills have been considered by colleges across North America. There are differences even between Vision 2000 and the CSAC Establishment Board Report. The skills finally chosen and on which George Brown's Generic Skills Subcommittee has worked were selected with significant input from employers. A 1989 background paper used in the preparation of Vision 2000 refers to these skills. The Role of the Colleges in the Changing Economy: Report on Consultations was the report of Study Team 2. The report notes that Study Team 2 consulted "a broad-based and widely representative sample of employers in Ontario..." (1). Participating companies ranged from very small to very large as in the case of General Motors. The study team also contacted thirteen employers' associations and the Ontario Federation of Labour. It stated that there were common themes. Generic skills was one.

- Every group strongly expressed the need for better general education and skills training - termed 'generic skills'.

- These skills include written and oral language skills, numeracy skills, interpersonal skills, and general technical skills; as well as the ability to think, to learn to analyze and to problem-solve.

- The publicly funded colleges should be responsible for teaching these portable skills (Study Team 2, i).

Technology and business firms expressed a common concern for the development of these skills. The Information and Communications Technology employers, for example, stated

> The new technologies are demanding a new kind of graduate - again the key is flexibility. This translates into the need for graduates with excellent writing and numeracy skills, honed analytical skills, the ability to think, and to

continue learning. Marketing and administrative skills, as well as social skills and working-with-people skills, are needed as well (15).

Industry employers were "unanimous" that "generic skills are seriously lacking - literacy and numeracy basic skills, as well as the 'soft' skills of people-handling and leadership" (12). These skill areas make their way into the Vision 2000 report when it quotes Michael Park's paper "Expanding the Core: General Education, Generic Skills, and Core Curriculum in Ontario Community Colleges" (1990).

> They (generic skills) include language and communication skills, math skills, learning and thinking skills, interpersonal skilis, and basic technological literacy (35).

The idea of establishing CSAC is recommendation five in the Vision 2000 report. It was to have "executive authority in the area of system-wide program standard, review and accreditation" (47). The 1992 report of the CSAC Establishment Board presents the skills as quoted on page two of this preface. Vision 2000's "language and communication skills" has become "communications (including language and literacy", "basic technological literacy" has become "computer literacy", and "learning and thinking skills" has become "analytical skills (including critical thinking and problem-solving)."

Mohawk College has also invested considerable time and resources in looking at generic skills. Mohawk's Integrated Generic Skills Education Project states "the recognition that there is such a set of generic skills has encouraged employers to focus on these basic abilities during the recruitment process and in on-the-job training" (1). Mohawk's report uses another term for generic skills, "employability skills" (1). This term comes from the Conference Board of Canada's Corporate Council on Education which published Employability Skills Profile in 1992. It states

> Employability skills are the generic skills, attitudes and behaviours that employers look for in new recruits and that they develop through training programs for current employees.

The council's list of skills are divided into three categories: academic skills, personal management skills, and team work skills. It would be useful here to look at how the council defines the skills areas.

> **Academic Skills** - Those skills which provide the basic foundation to get, keep and progress on a job and to achieve the best results.
>
> **Personal Management Skills** - The combination of skills, attitudes and behaviours required to get, keep and progress on a job and to achieve the best results.
>
> **Team Work Skills** - Those skills needed to work with others on a job and to achieve the best results.

Mohawk's work has drawn heavily on the experience of Alverno College in Wisconsin. That college has gained international recognition for its integration of "the abilities" ("generic skills" in Ontario) in the curriculum. The abilities at Alverno are in some cases developed in discrete courses but primarily through integration in the curriculum. Outside assessors including employers from the community evaluate each student's development. All students are required to demonstrate the abilities for assessment by employers in employment placements.

George Brown College, and indeed the entire system, should carefully consider how it wants to focus or direct generic skills. It is clear that the prime reason students choose a college education is to get a career job when they leave. That practical focus is one of the reasons the colleges were set up. It is in the interest of the students to equip them with "employability skills." On the other hand, the work of CSAC is to ensure that the colleges are more than training centres. Keeping this agenda in mind, the college should see generic skills in a larger context than employability skills. Generic skills, when looked at in this way, are vital for the personal and academic lives of students. Generic skills are necessary for success in the broadening experience of general education. Generic skills are necessary to engage society. The focus of generic skills will decide the selection of or at least the emphasis given to particular skills. For example, are we interested in developing students who arrive at consensus and work well in teams, or in developing students who are independent thinkers?

They may not be mutually exclusive goals, but in that case care should be taken to develop them both. The question of focus comes down to whether the generic skills are designed for employers or for the student as an individual. Maureen Hynes in a submission to the General Education Task Force takes up the issue of employer-centred or student-centred education. She writes, "the approach makes the needs of industry central to the education process - is that fair to the learners? to the teachers? to society?"(4) Keeping the focus clear will prevent generic skills from simply becoming an extension of job preparation.

Question 2:   Is outcome-based education the best approach for generic skills?

CSAC is committed to an outcome-based education model for the generic skills. Recommendation 6 of the Establishment Board Report is

> CSAC shall develop (and modify when necessary) generic skill learning outcomes for each level or type of credential ... (Johnston 16).

Those outcomes will be part of the indicators used in a system wide review of programs. That review, which will occur at least every five years, will determine one of three recommendations. Programs will 1) be unconditionally accredited, 2) be conditionally accredited, or 3) have accreditation withdrawn. CSAC will recommend in the last case that provincial funding cease. Thus specific generic skills outcomes are essential to program accreditation.

Mohawk College in its work on the generic skills advocates an outcome education approach. The Mohawk Integrated Generic Skills Education Project report explains that each skill includes several components. It continues

> The components supply the platforms for determining the behaviour expected of the student. The specific behaviour expected is called the Behavioural Outcome (6).

Mohawk's response to this approach has been to develop a behavioural

measurement mechanism to assess generic skills.

> To provide for a practical method of assessing the Behavioural Outcomes, Checklists, embracing groups of Behavioural Outcomes under each Skill, will be provided to make it feasible to objectively and conveniently determine that the Behavioural Outcome has been satisfied (6).

Those checklists itemize behaviours in communications, interpersonal, critical thinking and other skills. Each item is assessed by filling in a circle on a scale of one to five (unacceptable to excellent) which will in turn be scanned for computer tracking. For example, items under writing skills include "understandable", "comprehensive", and "appropriate format "(A 31).

The outcome-based education approach is stimulating considerable discussion in both the United States and Canada. The main issue is accountability. Accountability is, as CSAC representative Norm Rowen said to the General Education Task Force, closely related to funding. Those who supply the money want concrete evidence that money spent for education is being spent in the right place and is achieving results. An editorial in The Chronicle of Higher Education urged that " professors must respond to calls for accountability" and that part of our problem has been that most faculty members are unable to describe, in terms other than vague generalizations, how the curriculum is structured" (Schilling). The key to the approach, then, is specifics in the interest of accountability.

Maureen Hynes, drawing heavily on Nancy S. Jackson's work, submitted a paper to the General Education Task Force which proposes we reexamine the question of outcomes-based education. She raises specific problems with the approach. They are

> 1. Outcomes-based education is essentially applied behaviourism. It does not adequately reflect learning.

> 2. Outcomes-based education oversimplifies training and education. What is not named is not measured which obscures a "vision of the whole".

Nancy S. Jackson argues in "If Competence is the Answer, What is the Question?" that

> competency-based curriculum measures need to be
> understood primarily as a tool for administrative
> rather than instructional reform. That is, they provide
> a means for setting educational objectives and
> organizing program delivery that promises
> 'efficiency', 'effectiveness' and 'responsiveness' to
> the needs of industry; all this in a political climate
> where these goals have come to be seen as the
> essence of good management practice in
> educational institutions (I).

Outcome-based education is particularly problematic in the areas of interpersonal skills and critical thinking. CSAC is aware of the difficulties. The Establishment Board report notes

> The Establishment Board discussed concerns
> that there may be some particular difficulties in
> defining appropriate interpersonal skills and in
> assessing their attainment. However, responses
> to the discussion paper indicated that there is a
> broad consensus that interpersonal skills are
> indeed generic and important, and should be
> included in all college programs (16).

Mohawk College's Interpersonal Skills Checklist, which calls for a rating on a scale from one to five, includes

- accepting constructive criticism
- yielding personal goals to group goals
- showing sensitivity to cultural differences (A49).

The first problem is that such items, and indeed the entire skill area, presents difficulties in terms of quantitative assessment. This problem also has implications for Prior Learning Assessment. The second problem is that by requiring specific achievement in such areas the system could be delivering a bias and requiring accommodation. For example, aside from the difficulties of measuring "yielding personal goals" and "seeking consensus", including them demonstrates that the system considers them desirable. That is, students will be

expected to demonstrate in the interests of attaining credit toward graduation that they can yield personal goals to group goals, that they seek consensus. Consequently, post-secondary education requires more than mastery of a discipline. It also requires compliance with expectations for preferred behaviour. In this example, the system should be able to defend why it does not consider standing on principle in opposition to a group as desirable as yielding to the group. Perhaps both should be included in a generic skills assessment package. In that case, however, the system would be faced with assessing highly personal decisions in a variety of contexts. Some things defy measurement.

CSAC's Generic Skills Council notes in its Draft Workplan that the specificity of outcomes is a "major issue." Some kind of balance is needed as a guiding principle.

> This guiding principle was expressed as the need for outcomes to be, on the one hand, specific enough to be measurable and, on the other hand, general enough that they did not dictate specific curriculum and delivery (4).

The draft plan recognizes that such a principle raises a number of difficult questions. It summarizes the discussion by describing two views of outcomes, "precision" and "broader." The "precision" view requires tightly defined outcomes based on tasks in specific situations. The draft plan notes that some have criticized this view for trivial outcomes and fragmented learning. The "broader" view looks at performance and transferable outcomes in a number of contexts and roles. The draft plan says of this latter approach

> This perspective risks developing outcomes which may be (too) general and/or where acceptable attainments may vary (too) greatly thereby failing to ensure sufficient commonalty among those deemed to have successfully attained the outcome (5).

It is not the concept of outcomes-based education that is being discussed here, but rather the nature, and in particular, the specificity of the outcomes.

Michael A. Pimento of Centennial College compiled a report Learning Outcomes in which these two views of outcomes are discussed at length. That report asserts that the precision view is a competency-based model whereas the broader view is an outcomes-based model. The behavioural model of B.F. Skinner, the report notes, is the theoretical origins not of outcomes-based education but of competency-based education (3). John Dewy's "progressive educational philosophy advocating democratic ideals and experience in learning" is, the report continues, the origin of outcomes-based education (3).

The difficulty of specificity, however, still remains. The Centennial report states that "the CSAC board will have to determine what are 'appropriate' outcomes and examine the question of what is the appropriate level of specificity" (2). The report does give some help. It describes learning outcomes for an outcomes-based model.

> Learning outcomes are verifiable, clear statements of the level of performance that demonstrate achievement of the outcomes (4).

Learning Outcomes states later that these outcomes must be "performance based not content based" and are, essentially, "outputs" (5).

Nancy S. Jackson writes in "If Competence is the Answer, What is the Question?" that advocates of competency based education have been anxious "to dissociate themselves from behaviourist principles in the narrowest sense..." (3). Thus, we have the distinction between the precision model and the broad-based model of outcomes raised by the Generic Skills Council and in Learning Outcomes. Nancy Jackson asserts that broadening does not transform a competency model into one that is not behaviourist.

> ...it is my view that the influence and significance of 'behaviourism', more broadly conceived, is not eliminated simply by remedying these worst excesses of narrowness and reductionism. On the contrary, the centrepiece of the competency paradigm remains an emphasis on 'performance-based' objectives and criteria that are observable, measurable and clearly specified in advance. In this general sense of the term, 'behavioural specifications are still said to be essential in setting

instructional goals and objectives (4).

These observations are not meant to deny the need for clear goals and assessment mechanisms. Outcomes are certainly part of the education picture. These observations are meant to provoke thought as to whether or not anything has been left out of that picture. Although named outcomes provide clarity, they also present problems which should be addressed before they are put in place and drive curriculum.

Question 3   What is the purpose of generic skills education?

Outcome-based generic skills education closely related to employability raises some questions. Careful consideration as to the purpose of generic skills education is needed to avoid it becoming simple manipulation. The manipulation of words, numbers or interpersonal skills is in itself a superficial activity. John Ralston Saul in Voltaire's Bastards flags this problem. He criticizes a society that holds up "problem solving" and similar manipulative skills as pinnacles of learning. He is concerned about the reduction of larger areas of knowledge to "mathematical visions and obscure, hermetically sealed vocabularies" (131). Saul is most concerned with the focus in education on arriving at efficient solutions. He writes, "we have embraced the analytic approach so absolutely that counterweights, such as the linear historical view, have been stampeded into irrelevance" (136).

It is significant here that the CSAC term for thinking skills is "analytical skills - including critical thinking and problem solving." The George Brown critical thinking focus group had difficulty with this terminology at the outset of its discussions. It observed that analysis suggests breaking down into component parts which is at best incomplete. Thinking also involves synthesis, creativity and imaginative leaps which are more intuitive than logical. It is likely easier to measure analysis than intuition in an outcomes based education approach. That, however, would not deliver a full or "holistic" picture of thinking. The focus group recommended that development of thinking skills should not just foster problem-solving but problem-posing. It also recommended that CSAC reconsider its terminology because once the term is set in place it, like a set of

outcomes, will colour the educational approach to this basic human function throughout the system until the next review.

Saul makes the case that the analytic approach to education is divorced from memory of not just the distant but of the recent past. He writes

> What remains is a cheapened memory - little more than nostalgia - which is methodically used for the purposes of patriotism and advertising. Real memory does not induce regret. It is no more a conservative force than analysis is a tool for change. Memory is part of a seamless web with the future, there to help us remember exactly what our civilization is constructed upon and therefore in what ways our actions ought to be shaped in order to serve our needs and our interests (136).

A focus on skills particularly in terms of specific outcomes needs to be balanced with experience. Another way of putting it is that the generic skills must be interconnected with an enriching context. It is significant, therefore, that generic skills is only one dimension of the new education envisioned by CSAC. General education, as "the broad study of subjects and issues which are central to education for life in our culture", will be an important way of supplying that experience or memory. General education, vocational and professional courses require the application of generic skills. The generic skills are developed for application to challenging material. They equip students with whatever is needed to enrich themselves not only personally and professionally, but also historically, culturally, and imaginatively. Thus, they enable students to pursue life-long learning.

Question 4:   How do generic skills relate to equity issues?

The Programs Task Force Equity Resource Group submitted a report on equity issues in May, 1993. The report, in defining its terms and points of reference, states

> Research on equity-based education identifies access to programs and classes, treatment of students and other constituents, and outcomes of the instructional process as key areas in

which barriers may be identified and removed (2).

Thus "access", "treatment" and "outcomes" are primary areas which may be barriers to under-served or under-valued groups. Consequently, generic skills and their defined outcomes by level can, in this light, serve as mechanisms for inclusivity or exclusivity.

Both George Brown's critical thinking and interpersonal skills focus groups discussed this question at length. The critical thinking group wrestled with what the goal of developing thinking was. It considered moving the goal beyond manipulative skills to a particular predisposition or temperament. That temperament would include such characteristics as "tolerance" and "open mindedness." Once raised as a possible goal, the question immediately presented itself as to how "open mindedness" or "tolerance" could be measured. Considering the context of outcome-based education which does not recognize unmeasurable goals, such a goal, as laudable as it may be, requires the system to measure predispositions and attitudes. Further, it implies that students must have certain predispositions and attitudes to graduate.

Discussion quickly centred around the question of when such education becomes intrusion into privacy. Particular cultural, social, religious, or ethnic groups may carry a set of shared values bought into in varying degrees by the members of those groups. The critical thinking group wondered if it was not an invasion of privacy to expect a predisposition or attitude which, for all it knew, might be at variance with a student's commitment to a value system. Is crafting a curriculum requiring a predisposition at odds with one equity goal which aims to "create an atmosphere in which people feel included and comfortable"(1)? Centennial College's report Learning Outcomes states that in the broad-based model outcomes would be defined as "broad-based abilities demonstrated", "knowledge applied" and "dispositions manifested in performance" (2). Humber College's Human Studies Division prepared a guide Learning Outcomes and Course Outline Development which states that "an Instructional Goal is a broad, general statement of intended changes in knowledge, skill or attitude" (2).

Two major problems present themselves. Measuring changes in knowledge and skills is not as problematic as measuring changes in attitude. Behaviour in

any particular situation is not a reliable indicator of underlying attitudes which may be deliberately masked for the sake of passing a course. Behaviour can be assessed. Predispositions and attitudes are internal and personal. Second, there is an ethical question as to whether or not the college should be in the business of requiring certain attitudes as a condition of graduation. Such an approach would run counter to a philosophy of inclusiveness. A pre-determined set of attitudes and predispositions would be a vehicle for limiting, not expanding, education. It is not, however, an invasion of privacy to inform students that there are a variety of interpretive frameworks for experience. Exposure to different frameworks interpreting the same experience is a broadening experience in that it opens the door to perspectives. One concern was that this approach can quickly reduce itself to moral relativism. The process of education, however, involves engaging a diverse world. Developing thinking skills equips people to evaluate and challenge a framework by assessing assumptions and particular applications.

The interpersonal skills focus group was faced with the same discussion when it began defining just which interpersonal skills students should have. One difficulty arose around the notion of assertiveness. The focus group observed that whereas assertiveness and frank discussion of personal matters is part of North American culture, they are not part of every culture. It was noted that some college courses include a mark for participation. If the expectation is that the student ask probing questions and join in vigorous discussion then it is bringing personality and cultural values into the marking scheme. For those who are naturally shy, who have a cultivated humility, or who come from a culture where such behaviour is unseemly, participation may be simply being fully present, attentive and considerate. Consequently, as with the analytical skills focus group, discussion centred around whether or not interpersonal skills education should be concerned with measuring behaviour in opposition to personal and cultural values. On the other hand, the group believed that students were not served by simply avoiding issues like assertiveness. The group concluded that it was important to clarify and explain North American values, to stress that they were not shared by everyone, and to point out how they vary in different situations. Humility and reticence to speak of one's self might be fine in any number of situations but may have undesirable results in a job interview, for example. The point of the discussion was that the system should not require students to be assertive but to look at assertiveness.

Recommendation eight of the Equity Resource Group includes a statement on success. The recommendation is "that generic skills be reviewed from an equity perspective to ensure success for all groups" (21). Although the colleges cannot guarantee success to everyone because of different responses of personal responsibility, they have tried to enhance opportunities for success. One of the roles of the colleges as alternatives to universities was to provide a variety of avenues to make post-secondary education a viable option to the community. Bridging programs, accommodation of learning disabilities and other mechanisms all serve to bring people in rather than exclude. It is not clear in a climate of full enrollment and calls for both stricter entry requirements and system-wide standards how this special role will evolve. The Equity Resource Group report certainly advocates a continued inclusive approach.

It is important that the system be clear as to what it wants to be. If we are clear that we want to be inclusive and provide mechanisms that enhance the opportunity for success, there are significant implications for the generic skills. The communication skills focus group, for example, discussed at length second language speakers enrolled in post-secondary programs. If the system moves to stricter entry standards, does this disadvantage immigrant and visa students who may be well-qualified in all areas except language? If the post-secondary nature of developing communications skills is beyond the skills of the second language learner who is otherwise well-qualified should that learner be held back? The group agreed that it was not in the best interests of such students to simply move them through the system to more and more complex levels without them having dealt with the basic problem. On the other hand, developing language levels to a post-secondary level can take years. The group endorsed bridging courses and semesters, pre-programs and remediation as alternative means to prepare students for post-secondary work. In the interests of enhancing opportunities for success, however, it also advocated alternative deliveries of post-secondary communications skills content. Thus, different mechanisms and methodologies delivering the post-secondary content would recognize that even after preparatory work, students from different backgrounds would benefit from different approaches.

CSAC's Generic Skills Council in its <u>Draft Workplan</u> calls this issue "congruence with communities." It states that the draft terms of reference

include the proposition that "the generic skills requirements shall be responsive to and reflective of the broader diversity of the population of Ontario" (8). What this means to the Council is that there is a pressing need to address a number of questions. Two of those questions raised in the Draft Workplan are

> Will outcomes need to be stated differently, modified or omitted to accommodate important differences?

> What is the possible impact of any differences on the policy that outcomes will be common to all graduates? (8)

The Draft Workplan's earlier discussion on outcomes noted that the Generic Skills Council had to determine whether "to err on the side of 'measurability' and when to err on the side of 'autonomy' (6). There is yet another fundamental balance to be struck, between accessibility and common, meaningful standards.

Question 5: **What constitutes post-secondary levels for generic skills?**

The CSAC Establishment Board report makes a clear distinction between generic and vocational skills. It states

> Any generic skill outcomes deemed appropriate for a specific program which go beyond the minimums established for each level and type of credential will be considered vocationally specific (15).

Vision 2000 states that the skills are "practical life skills essential for both personal and career success" and goes on to emphasize that "they are not job-specific, but are crucial to mastering changing technologies, changing environments and changing jobs" (35). The focus groups looked for broad based skills necessary to all students irrespective of program. Thus, all students should have a certain facility with a computer. A particular program, like AutoCad for example, would require considerably more computer skills, but what it requires would be vocationally specific. At the same time, however, a CSAC representative visiting George Brown's General Education Task Force

noted that instruction in and development of the generic skills were to be clearly post-secondary.

The computer and numeracy focus groups found these parameters problematic. Both groups considered what skills were necessary for life irrespective of program. Both groups considered that skills beyond their basic inventories exceeded the requirements of a practical life skill and were thus vocational. Both groups also found it difficult to categorically state that the basic inventory lists were more advanced than secondary school graduation levels.

The computer skills focus group determined that managing information, including gaining access, inputting, storing and sending, among other skills, was essential and generic. Such skills are applied but not limited to operations like retrieving information from data networks, word processing and operating spread sheet programs. The group observed, however, that some students coming from particular school boards and other environments already possessed sophisticated computer skills. Skills beyond those levels would be so specialized as to be considered vocational. Other students with equivalent qualifications but from different environments do not have as deep a familiarity with computers. Thus, any attempt to designate a set of generic skills irrespective of vocational program would have to assume a process of credit for experience. This concept is the premise upon which Prior Learning Assessment (PLA) is based.

The numeracy skills focus group had a similar discussion. One group member pointed out that students entering college with a grade twelve diploma may not have had any mathematics for years. It has been possible for students in high school to make selections from a menu of courses and avoid math. Further, it is permitted for secondary school math teachers to tailor course content to the level and needs of a particular class. Consequently, items or particular levels of complexity can be left out. In addition, the experience of students coming from different boards and different countries is a varied one. The focus group considered that skills beyond its inventory of mathematic skills and concepts exceeded the requirements of a practical life skill and thus were advanced or vocationally specific. To demand more than that would mean that skills were no longer generic. Different programs in the college require different levels of competency. Programs in technology requiring a higher level require more than

generic numeracy. They require special applications for professional purposes. As with the computer skills focus group, the numeracy skills focus group affirmed that as students come to the college from a variety of boards and environments with some or all of the skills on its basic inventory list, recognition of prior experience with the skills was essential.

Question 6: What is the hurry?

The Generic Skills Council was formed in the latter half of 1993. Its mandate, however, is to

> prepare draft outcomes in each of the five areas
> in the Fall 1993 to be approved by the Board for
> 'formal consultations' in the Winter of 1994 and
> for final approval by the Board in the Spring
> 1994 (Draft).

Discussion in the George Brown focus groups turned to the question of time-lines on several occasions. One concern was that expecting outcomes for five different generic skills on several different levels in such a short time would preclude broad consultation. At the very least, lengthy and in-depth consideration of various points of view would be constrained. Another concern was that if we move too quickly and institute outcomes and a concept of generic skills that have not been carefully considered we may find the situation difficult to amend later on. As the issue is system-wide standards system-wide implications are involved. One group member noted that the original vision was Vision 2000. When did it become Vision 1994?

Part of the answer to these concerns lies in the process of reforming the college system. The Ministry has made it clear that it is serious about acting upon Vision 2000 recommendations. The Minister of Education and Training stated in a February 18, 1993 open letter that

> Effective September 1994, each college post-
> secondary program must include a minimum of
> one general education course of approximately
> 45 instructional hours per semester
> (Background 1).

Thus, the Ministry said that Vision 2000 was not simply an academic exercise. It was to be acted upon and taken seriously. A 1994 deadline was serious business indeed. That same memo endorsed the proposal to define standards in the five generic skills (Background 5). As noted earlier in this preface, general education and generic skills have been closely linked historically and in literature on the college system. Thus, as General Education is introduced in 1994, the generic skills will have been clarified.

CSAC has made it clear that changes are to be phased in. The introduction of one general education course per semester by September 1994 is phase one. More courses are to be added later. Similarly, 1994 is only a target date for the beginning of the process of standardizing generic skill outcomes and ensuring their development across the college system. George Brown is working toward 2002 to accomplish its Academic Plan; but, to do so it must start. CSAC is also starting now.

The subcommittee appreciated the fact that the Ministry was sending a clear message as to the seriousness of the Vision 2000 proposals. It also appreciated the fact that a deadline gave the colleges a framework and impetus to get to work on general education and generic skills. It had strong reservations, however, about that deadline being 1994 and was concerned about the quality and thoughtfulness of any design for both general education and generic skills put into place so quickly.

This preface reflects some of the debate, discussion and thoughtful consideration that the subject of generic skills engendered at George Brown. There are two things that should be kept in mind. First, CSAC is the body with the final responsibility of setting system wide standards which will be factors in program accreditation. The work and discussion at any one particular college will be valuable input but will not stand alone. The generic skill areas and standards at one college will not, when all is done, be different from another. Thus, in developing those system wide standards it is important that a variety of perspectives be consulted. The focus groups, subcommittee and contributors are aware that they have developed considered opinions and recommendations. In the end, however, CSAC prevails. What is put in place may differ from the work in this report. Second, the discussion around the questions in this preface does not suggest definitive answers. This discussion

is essential, however, to assess implications of the selection of the skills, their levels and recommended implementation methods. The implementation of generic skills must be done at least as carefully as the implementation of general education. Thoughtful consideration of underlying issues and assumptions is the beginning.

2. PROCESS

George Brown College began work on an Academic Plan in 1992. The purpose of the work was to develop a new "academic architecture" for the college as it approached the year 2000. This plan would guide the college as it responded to a changing world. Ontario certainlyhad changed since the college system was set up in the 1960's. The Vision 2000 Report and the establishment of CSAC made it clear that post-secondary college education was also changing. George Brown set up four task forces to examine a number of critical issues and make recommendations for renewing the college. Those four task forces were

1. Access and Student Services
2. Programs Task Force (Evolution and Review)
3. Educational Resources, and
4. General Education

The task forces produced many recommendations and ranked them in order of importance. The college has adopted a two year by two year process to implement these recommendations so that the renewal will be complete by the year 2002.

The Academic Plan Steering Committee requested in late 1992 that the General Education Task Force take on generic skills in addition to dealing with general education issues. A proposed subcommittee was constituted under Dr. Patricia Groves in early 1993 and met for the first time on February 17. The subcommittee membership was drawn from departments across the college. Its purpose was to develop recommendations for the college in the five generic skills areas designated by CSAC. In order to accomplish its mandate, the subcommittee set up five focus groups to work on a specific skill each. Group members had expertise in the generic skill with which the group was dealing. All five groups presented their recommendations to the subcommittee at the end of the academic year. The subcommittee discussed the recommendations and in some cases directed further work. The first phase of the work on generic skills at George Brown ended with the submission of the year end report to the General Education Task Force in June 1993.

The General Education Task Force directed that a second phase of work on generic skills should take place between September and December 1993. A smaller, reconstituted generic skills subcommittee was set up to complete the work and make general recommendations regarding generic skills as a whole in a final report. That final report will be appended to the General Education Task Force Final Report and submitted to the Academic Plan Steering Committee early in 1994.

THE GENERIC SKILLS AT GEORGE BROWN

Generic skills are customarily framed pragmatically in terms of how they help students function first in school and then in the workplace. The George Brown Generic Skills Subcommittee, however, believes that the primary educational value of the generic skills derives from their contribution to strengthening students' active participation in and control over their own learning.

The generic skills are instrumental in helping students "to learn how to learn" and they equip students for life-long learning. This educational aim must underlie and be the guiding principle for the identification and implementation of the generic skills. The college should attend to these skills by providing students first with instruction from those with expertise in the skills and then opportunities to develop the skills throughout their college experience. Embedding the skills in the disciplines, or in other words infusing generic skills across the curriculum, requires students to use and exercise the skills in various contexts. In this light, generic skills constitute a vital and essential component of the college's "learning culture" for everyone.

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4. RECOMMENDATIONS OF THE FALL '93 GENERIC SKILLS SUBCOMMITTEE

1.   The College should set up a permanent George Brown College Generic Skills Committee. That committee would report directly to the Academic Vice-President and advise the Programs Approval Committee. Its task should include

- continuing the initiative of the Generic Skills Subcommittee;

- liaising with CSAC as it establishes system-wide generic skills standards in the spring of 1994;

- assisting in the implementation of generic skills standards across the college;

- coordinating various implementation methods;

- ensuring basic standards are being·met;

- advising the Programs Approval Committee;

- providing consultation for Quality Scan;

- reporting on generic skills issues to the Academic Vice-President.

The subcommittee further recommends that the Generic Skills Committee be representative of

- the Divisions in the college, and

- expertise in the five generic skills areas.

The size of the Committee should be kept to about 8-10 members to make it efficient.

2.   The College should provide adequate release time and administrative support to the Generic Skills Committee. These resources are especially important in the first year of the Committee's life. The tasks of coordination and implementation are enormous.

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3.   Quality Scan working with the Programs Approval Committee should be a vehicle for programs to review and develop their generic skills content and delivery mechanisms.

4.   The College should adopt a common entry assessment mechanism for both English and Mathematics. Base college functioning levels geared to those mechanisms should be used to indicate whether or not students will be at risk.   This indicator should not be used to exclude students from post-secondary programs but rather to determine who will be referred to one or more of a number of remediation mechanisms.

5.   The College should adopt the generic skills descriptions and implementation recommendations in this report.

5. IMPLEMENTATION RECOMMENDATIONS
COMMON TO THE GENERIC SKILLS FOCUS GROUPS

Five focus groups worked on one generic skill area each. The large generic skills subcommittee and the little generic skills subcommittee considered each group's recommendations for levels and implementation. Although the groups worked on different skills, many made similar recommendations on implementation.

Implementation was a difficult issue to tackle. Developing the skills by embedding them across the curriculum throughout the disciplines was seen as essential. Such an approach would convey a strong message to students that the five generic skills are critical to personal, academic and professional success. The focus groups made a distinction, however, between development and instruction of skills. Embedding supports and develops the groundwork laid by discrete instruction. Where should such discrete instruction occur? How should the skills be embedded in the disciplines to develop the skills?

The focus groups, and the generic skills subcommittee, concurred that the college should recognize a variety of approaches. These approaches would need coordination but once done would respect the differences between programs while assisting students to reach common standards. Specific recommendations made by each focus group appear later in this report. Recommendations shared by more than one focus group follow.

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1. The College should foster an environment where the five generic skills as determined by CSAC are part of the general college culture. These skills should be part of all vocational, generic skills and general educational courses where appropriate. In essence, the College should endorse a policy of generic skills across the curriculum. To accomplish this goal the college should

1.1 make training in the generic skills areas an important part of orientation to the college after hiring college staff (to be referred to a joint management-union committee for consideration in the case of faculty or support staff);

1.2 offer professional development on incorporating the skills in curriculum; and

1.3 offer professional development on strategies for dealing with students from diverse backgrounds.

2. The College should develop alternative methods of delivering the knowledge based content of the basic skills to offer departments in the event that they wish to choose from them as opposed to developing their own mechanisms. Such offerings could include

2.1 a discrete course;

2.2 workshops on specific skills;

2.3 independent learning modules focused on as a supplement to work done in common classes;

2.4 components of discrete courses;

2.5 a pool of college staff with expertise to act as resource persons as needed. Professors at the college with expertise in these skills could make up a bank of guest speakers that would have a number of

workshops included on their SWF's as teaching
assignments; and

2.6   any department with courses that develop
generic skills could consider making these course
offerings open to students in programs in other
departments.

3. Departments across the College should attend to the development
of the skills into their programs to reflect the college commitment to
generic skills.

3.1   Course outlines should include generic skills
objectives; and

3.2   General education and vocational courses
should include where appropriate and reasonable a
significant part of their assessment on generic skills.

4. Departments should consider alternative teaching methodologies that
foster the use and development of the skills. Examples of alternative
methodologies are the case-study and the problem solving approach in
delivering course content. Such methods require students to use various
generic skills to accomplish a task. In this way, the five skill areas overlap
and are used for a common purpose.

5. Departments throughout the College should devise and demonstrate
their own ways of implementing applications of the generic skills. Some
methods could include

5.1   assessing generic skills in field placements;

5.2   inviting guest speakers from professional
organizations to speak to students on topics with a
generic skills focus. These speakers could help
underscore the importance of the generic skills; and

5.3. inviting expertise from the college to speak to students on applications of generic skills at appropriate times in discipline courses as guest lecturers.

6. The College should enhance the libraries, computer learning centres, and existing math and language resource centres with specialists and facilities. It should also develop new generic skills resource centres for mathematics, computers and language on campuses where they are not currently in place.

6. LANGUAGE AND COMMUNICATION SKILLS

PREAMBLE

George Brown, as the City College, is in a unique position as Ontario community colleges define both their identities and the special services they can offer. Our college attracts a diversity of students. Their language proficiency ranges from below grade five to post-secondary levels. Some students who apply for admission to the college are weak in a number of areas and require remediation to achieve entry level requirements. Bridging programs, up-front remediation and various other mechanisms are means by which the college can assist these students. The Language and Communications focus group endorses diverse remediation methods to enhance access. Other students who apply for admission to the college meet or exceed entry requirements but are weak in standard English language skills for a number of different reasons. CSAC has mandated that the basic post-secondary generic skill levels must be met for a program to maintain its accreditation. The Language and Communications focus group recommends a developmental system to preserve program integrity.

The main distinction between a remedial and a developmental program is that whereas the former is focused on remediating to entry level requirements, the latter is intimately concerned with post-secondary content. Just as the General Education Task Force has recommended versions of general education courses designed for students who continue to learn English as a second language so the Language and Communications Skills focus group recommends alternative mechanisms to deliver post-secondary language and communications generic skills to students who need development in standard English skills. George Brown can offer these alternatives that include rather than exclude. The focus group strongly recommends that the college move to a registration by course system which would offer the flexibility to provide a diversity of courses geared to the diversity of the student population.

Raising language and communication skills is a developmental process for all students. Post secondary content is distinguished by an emphasis on instruction in rhetorical strategies. Thus students focus on communication for special purposes and special audiences. The needs for informed citizenship and

effective functioning in the professional work-place demand effective, sophisticated communication skills. Instruction in post-secondary communication skills inherently develops the generic skills of literacy, critical thinking and interpersonal relations. The developmental process moves from instruction in rhetorical strategies, to professional communication and finally to research and reporting. The process of raising communications skills requires instruction, extensive practice and experience. Consequently, students completing a third semester at college have higher, definable skills than those completing a first semester. Further, basic language skills are challenged with increasingly complex post secondary and professional content. Instruction in the strategies and skills needs to be supplemented through practice in all generic skills, vocational and general education courses.

GENERIC STANDARD ENGLISH SKILLS
FOR THE GEORGE BROWN GRADUATE

Graduates will demonstrate an ability to both acquire and express orally and in writing information and ideas necessary to their academic, personal and professional needs. They will develop the advanced language skills of listening, reading, writing and speaking in standard English with complex, college level content. Graduates will further demonstrate an integration of effective communication skills with critical thinking and interpersonal skills.

FIRST YEAR OUTCOMES

Students completing a first year of college will demonstrate proficiency with rhetorical strategies in dealing with different purposes and audiences. These strategies include

- comparison/contrast
- cause/effect
- classification
- description
- partition
- narration

- analysis
- evaluation

They will develop these strategies in particular academic, personal and professional business/technical communications through a process which emphasizes

- planning
- shaping
- revising
- editing

Students will also develop effective text reading, note-taking, listening, and test-taking skills appropriate for advanced college level content. They will also demonstrate familiarity with the library and an ability to conduct basic research.

Measurement tools:

- personal, expository and persuasive writing

- summary and evaluative writing

- college essay - timed assignment to demonstrate the essential skills of:
  acquiring
  researching
  organizing
  expressing

- library research assignment

  short pieces of professional writing including
  - technical writing
  - business writing
  - field writing

- short personal and professional oral presentations

Evaluation Criteria:
- mechanics of standard English
- format
- appropriate tone, personae, rhetorical strategies
- coherency, selection of detail and
- information

SECOND YEAR OUTCOMES

Students completing a second year of college will demonstrate proficiency with advanced research skills. They will be able to gain access to information in libraries and from other sources. Students will also demonstrate an ability to synthesize and report that information in an extended piece of writing in a coherent manner using standard English. In addition, students will develop a job search portfolio including employer research.

Measurement tools:
- research and report project that requires:

  - research in and out of the library (e.g. use of CD ROM)
  - bibliographic and documentation skills
  - synthesis and reporting

- job search portfolio

Evaluation Criteria:

- extent of research
- documentation
- mechanics of standard English
- format
- appropriate tone, personae, rhetorical strategies
- coherency, selection of detail and information

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THIRD YEAR OUTCOMES

CSAC documents state that the generic skills for students completing a three-year program should be higher than for students graduating from a two-year program. The current practice for students enrolled in a third year technology program at George Brown is to demonstrate primary research and sophisticated research methods in a professionally related project. The focus group recommends that the third year of a three year program include a project requiring advanced primary research and communications skills.

ESSENTIAL SKILLS DEVELOPED WITH INCREASINGLY COMPLEX MATERIAL THROUGHOUT THE PROGRAM

ACQUIRING

- Listening and reading

- Students will develop active listening and reading to a level at which the graduate can accurately recapitulate, paraphrase, summarize and assimilate advanced college level content.

RESEARCHING

- Students will develop library skills necessary to their academic, personal and professional needs. They will demonstrate an ability to acquire and accurately document information. They will also demonstrate their ability to acquire information from a variety of other sources.

ORGANIZING

- Students will distinguish between relevant and irrelevant, appropriate and inappropriate information and ideas for the development of a purpose. They will select and arrange information and ideas in a coherent and effective order.

EXPRESSING

- Writing and speaking

- Students will express ideas clearly and coherently suitable for the audience, including post-secondary and professional ones, using standard English.

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RECOMMENDATIONS

1.   The College should foster an environment in which language and communication skills are practiced in all vocational, and general educational courses. To accomplish this goal the College should

   1.1   encourage assignments across the curriculum so that faculty from the disciplines work with the student on common projects. An oral presentation or a report, for example, could be assessed both in communication and vocational courses;

   1.2   encourage general education and vocational courses to include where appropriate and reasonable a significant part of their assessment from work requiring written and oral presentation skills; and

   1.3   offer professional development on incorporating communication skills in curriculum.

2.   Language and communication skills should be developed beginning in a common college foundation course which would anchor the developmental program.

3.   The developmental program should include emphasis on interpersonal and professional communications, research, the report and oral presentation.

4.   Programs should examine mechanisms for delivering instruction in advanced skills. The current system of one communications course per semester for three semesters in place in Business, and Science and Technology is one mechanism which permits an ordered development from rhetorical strategies to professional communications to advanced research and reporting.

Some mechanisms that programs with fewer than three courses could consider include

4.1   a gradual phase-in of a course in a later semester;

4.2   a deferral of a vocational course to free time for language and communication skills instruction;

4.3   redistributing unused time from courses under a common semester length if a common semester is adopted at the college; and

4.4   referrals to equivalent Continuing Education courses.

5.   Experience with demonstrable achievement should permit exemptions from parts or all of the program.

6.   Recognizing the diversity of students at George Brown, the College should offer alternatives and supplements for

a) students who have learned English as a second language and still need assistance, and

b) native speakers with weak communication skills.

These methods should include

6.1   contracted time in language resource centres staffed with experts;

6.2   independent learning packages on specific areas of language mechanics; and

6.3   discrete equivalent courses for second language learners who need developmental work.

7.   Students enrolled in the third year of a program should demonstrate primary research and sophisticated research methods in a project related to their profession.

7. ANALYTICAL SKILLS:
CRITICAL THINKING AND PROBLEM SOLVING
(REASONING SKILLS)

DESCRIPTION OF REASONING SKILLS INCLUDING CRITICAL THINKING AND PROBLEM SOLVING FOR THE GBC GRADUATE

The goal of developing generic thinking skills at the college is to enable the student to develop a predisposition for clear thinking and a willingness to question. To arrive at this goal, graduates develop their thinking faculties in two main ways both of which involve measurable skills. They have developed the ability both to evaluate arguments and examine assumptions and reasoning. They have learned to apply these faculties to both problem solving and problem posing so that they may engage the world, both personally and professionally, in a reasoned and questioning manner. Graduates have further learned to consider and evaluate alternatives when making decisions, choices and judgments.

BASIC SKILLS OF SOUND REASONING

1. recognizing fallacies

2. identifying and questioning assumptions and relationships

3. distinguishing between premise and conclusion

4. distinguishing between and assessing the interpretation of opinion and factual claims

5. prioritizing in situations of conflict (e.g. values, goals)

6. reasoning inductively and deductively

BASIC CHARACTERISTICS OF SOUND REASONING

1. respect for persons
2. readiness to consider alternative explanations
3. care for the procedures of inquiry
4. readiness to listen
5. habit of judicious suspension of assent
6. habit of self-appraisal

APPLICATIONS

1. ethics
2. scientific method
3. aesthetics
4. logic and mathematics
5. practical reasoning, trouble-shooting and problem-solving
6. political and civic issues

RECOMMENDATIONS

1. The College should adopt the basic skills of sound reasoning list as generic to one year programs or the first year of longer programs. Emphasis on basic skills in the first year should shift to applications in the second year.

2.   The College should develop alternative methods of delivering the knowledge based content of the basic skills of sound reasoning to offer departments in the event that they wish to choose from them as opposed to developing their own mechanisms. Such offerings could include

   2.1   a discrete course delivered in varying lengths;

   2.2   workshops on specific thinking skills;

   2.3   independent learning modules focused on thinking skills as a supplement to work done in common classes (e.g. communications and foundation general education);

   2.4   components of discrete courses; and

   2.5   a pool of college staff with expertise to act as resource persons as needed.

3.   Departments across the College should embed reasoning skills into their programs to reflect the College's commitment to generic skills. Course outlines should include generic skills objectives which in turn should be a component of the final assessment for the student.

4.   The second and third years of a program should apply the basic skills of sound reasoning in the scientific method, aesthetics, ethics, logic, practical reasoning, trouble-shooting or problem solving depending on suitability and on how best the applications can be integrated with the program.

5.   Departments should consider alternative teaching methodologies that foster the use and development of reasoning and other skills. Examples of alternative methodologies are the case-study and the problem solving approach in delivering course content (see Attachment pages 44-45).

ATTACHMENT

Howard S. Barrows of the School of Medicine of Southern Illinois differentiates between the case-study method and the problem-solving method in The Tutorial Process (Southern Illinois, 1992)

CASE-STUDY:

> Although the case method teacher does not directly give information to students but challenges them to present their own thinking, he does provide them with information and direction. The case method teacher does this by responding to students' ideas with counterexamples, absurdities that would result from their ideas, data not explained by their ideas, or by providing them with new facts that will shape their thinking at a critical point. Although the students are required to think and to defend their ideas in the case method, they will usually know from the teacher's responses if they are right or wrong. In the case method, the students are certainly challenged to reason and learn on their own and are not as dependent on the teacher as in more didactic, lecture approaches; but they are not as independent of the teacher as in the facilitatory tutoring method (iii).

PROBLEM-BASED

> In problem-based learning, the problem is usually undertaken first to allow the students to see how far their present knowledge and reasoning skills can take them; to allow them to recognize, within the constraints of the curricular goals they will need to learn, what resources they will need to use to acquire the information needed. In the sequence of problem-based learning, the next small group session occurs after the students have carried out what they deem is appropriate self-directed study and return to the group to apply what they have learned to the task or problem, and then

synthesize and evaluate what they have learned....As the group becomes comfortable and adept at the process, the tutor interjects his challenges only when the students may miss a step in the process, seem to be wandering, or are confused. This guidance can be considered **coaching**. As the students progress, the tutor deliberately and progressively withdraws or **fades**, eventually leaving the students on their own (15-16).

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8. COMPUTER LITERACY

DESCRIPTION OF COMPUTER LITERACY OF THE GRADUATE

Graduates will have acquired computer literacy for academic, personal and professional needs. They will understand concepts necessary to computer literacy and will demonstrate competency in the generic computer skills including

- accessing
- searching
- inputting
- retrieving
- storing
- sending.

These skills will be demonstrated through the usage of such computer applications as

- data-retrieval
- word processing
- spread sheets

They can also be demonstrated through such applications as

- graphics
- telecommunications

RECOMMENDATIONS

1.   Students enrolled in a one year program or in the first year of a longer program should develop basic word processing, and spread sheet skills as these are generic skills irrespective of program.

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2. Students in the second year of a two year program should develop advanced computer skills to become more proficient users of appropriate word processing, spread sheet, information management and telecommunication skills.

3. Students in the third year of a three year program should develop the skills to integrate multiple computer applications.

4. The College should develop alternative methods of implementation of computer literacy skills to offer departments in the event that they wish to choose from them as opposed to developing their own mechanisms. Such offerings could include

   4.1 independent learning modules in a resource centre as a supplement to a course requiring work done on a computer;

   4.2 a discrete course in basic or advanced computer literacy that could be delivered in varying lengths;

   4.3 referrals to Continuing Education courses; and

   4.4 a pool of college staff with expertise to act as resource persons where needed.

5. General Education offerings should include courses or sections of courses on the history, philosophical and societal implications of computers.

6. The College should foster an integration of computer skills with vocational generic skills and general education courses. This goal could be accomplished by

   6.1 requiring students to use information retrieval systems like CD ROM for communications and other course work where reasonable;

6.2   requiring students to use word processing for communications and/or other course work where reasonable in the first semester; and

6.3   requiring students to use spread sheets in connection with mathematics and/or other course material where reasonable before the end of the second semester.

7.   Basic terminology and necessary concepts should be integrated with the development of the generic computer skills.

8.   The College should invest in computer facilities for college staff.

9.   The College should provide students with open access to computers by

9.1   pooling current resources which, will facilitate updating; and

9.2   investing in new resources.

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9. INTERPERSONAL SKILLS

DESCRIPTION OF INTERPERSONAL SKILLS FOR THE GRADUATE

Graduates will have the necessary intrapersonal and interpersonal skills to make appropriate choices to function effectively in interpersonal and inter-cultural contacts. Students will have looked at the skills content from personal, social and cultural perspectives. These will include intrapersonal and interpersonal skills.

INTRAPERSONAL SKILLS

GOAL: examining the self by

1. **VALUES**   identifying and examining one's values;

2. **FEELINGS**   identifying and examining one's feelings; identifying triggers that contribute to discomfort; disclosing aspects of the self appropriately;

3. **SELF-IMAGE**   examining self-image through determining personal boundaries; understanding concepts of responsibility; appreciating and working on self-acceptance; being aware of one own's body language; identifying factors for self-esteem, identifying and examining roles.

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INTERPERSONAL SKILLS

GOAL: effective communication one-on-one and in groups by

1. **COMMUNICATION**   identifying and demonstrating communication skills through examining hearing vs. listening skills, interpreting body language, understanding and identifying contexts of communications;

2. **CONFLICT**   understanding conflict management by identifying and increasing awareness of interpersonal conflict, identifying attitudes and behaviours which could resolve conflict, increasing awareness on issues of healthy, constructuve conflict;

3. **ASSERTIVENESS**   examining different perspectives on self-assertion vs. aggression, examining approaches appropriate for the self both culturally and personally;

4. **RESPECT FOR DIVERSITY**
    developing and demonstrating a respect for diversity;

5. **COURTESTY**   developing and demonstrating common courtesy.

RECOMMENDATIONS

1.   The College should adopt the basic intrapersonal-interpersonal skills list as generic to one year programs or the first year of longer programs. The knowledge-based content should be delivered by the end of the second term.

2.   Advanced applications of these basic skills to professional situations, depending on suitability and on how best the applications can be integrated with the program, should make up the content of second and third year development of interpersonal skills. Attention should be given to employment skills. The interpersonal skills should be related to the work place and anecdotal analysis used where appropriate.

3.   Departments throughout the College should devise and demonstrate their own ways of implementing these advanced applications. Some methods could include

3.1.   assessing interpersonal skills in field placements;

3.2.   inviting guest speakers from professional organizations to speak to students on topics with an interpersonal skills focus;

3.3.   inviting those with expertise from the college to speak to students on interpersonal skills at appropriate times in vocational courses as guest lecturers; and

3.4.   using teaching methodologies that foster interpersonal and other generic skills.

4.   Departments offering courses with interpersonal skills content should consider making some course offerings open to students in programs in other departments.

5.   Departments across the College should embed interpersonal skills into courses in their programs to reflect the college commitment to generic skills.

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6.   The College should develop alternative methods of delivering the knowledge-based content of interpersonal skills to offer departments in the event that they wish to choose from them as opposed to developing their own mechanisms. Such offerings could include

6.1   a discrete course delivered in varying lengths;

6.2   workshops on specific interpersonal skills;

6.2.1 the skills could be grouped, organized and presented in a series of workshops and lectures;

6.2.2. the special workshops and lectures could be introduced into any course when appropriate to course content; and

6.2.3. professors at the College with expertise in these skills could make up a bank of guest speakers that would have a number of workshops included on their SWF's as teaching assignments;

6.3   a pool of college staff with expertise could act as resource persons as needed.

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10. NUMERACY AND MATHEMATIC SKILLS

DESCRIPTION OF NUMERACY AND MATHEMATIC SKILLS FOR GEORGE BROWN GRADUATES

The goal of developing numeracy and mathematic skills is to enable the graduate to deal adequately with the numbers and mathematic concepts which are increasingly important in our modern technological society. Graduates will demonstrate an ability to organize and interpret numerical data and to apply the appropriate mathematic skills to problem solving.

INVENTORY OF MATHEMATIC SKILLS AND CONCEPTS

The following list represents the minimum content for students completing programs.

1. Whole Numbers: arithmetic operations, order of operations, exponents, square roots;

2. Fractions: types and conversions of fractions, operations with fractions;

3. Decimals: decimal and fraction conversions, operations with decimals, scientific notation;

4. Estimation of Quantities: methods and applications

5. Calculators: principal operations and functions;

6. Percent: operations and applications, conversion to and from decimals and fractions;

7. Basic Algebra: signed numbers, like and unlike terms, solving simple equations, formula manipulation;

8. Ratio and Proportion: reducing, ratios, direct and indirect proportions, applications;

9. Units and Measurement: identification of quantities, unit systems;

10. Mensuration: basic geometric shapes, perimeter, area and volume;

11. Graphs and Graphing: types of graphs and their uses;

12.   Problem Solving: general methods and techniques.

RECOMMENDATIONS

1. The College should adopt the inventory of mathematic skills and concepts as generic to programs. Proficiency should be demonstrated by the end of year one.

2. The second and third years of a program should apply the basic mathematic skills depending on suitability and on how best the applications can be integrated with the program. Mathematic skills should be a component of the final assessment for the student in such courses.

3.   The basic content should be delivered through a variety of mechanisms. Some discrete mathematics courses and mathematics units in professional courses currently cover the basic list. The College should develop alternative methods of delivering the knowledge based content of the basic skills to offer departments in the event that they wish to choose from them as opposed to developing their own mechanisms. Such offerings could include

   3.1   a discrete course delivered in varying lengths;

   3.2   workshops on specific mathematic skills;

   3.3   independent learning modules as a supplement to work done in other courses;

   3.4   a pool of College staff with expertise to act as resource persons as needed; and

   3.5   referrals to Continuing Education courses.

4. Departments across the College should integrate mathematic skills into their programs and courses where appropriate and reasonable.

5. The college should establish numeracy and mathematic skills resource centres (see Remedial Mathematics Project Report).

11. ITEMS FOR ATTENTION

BY THE PROPOSED
GEORGE BROWN COLLEGE GENERIC SKILLS COMMITTEE

1. What is the role of the generic skills in College preparatory programs?

2. What are the financial implications of delivering the five generic skills throughout all post-secondary programs?

3. Is it possible to develop computer literacy with all post-secondary students at the College? What means are available for sufficiently equipping the college with the necessary hardware and software? How can the College provide sufficient access to the equipment?

4. Is the communication skills model sufficient for all programs? What other alternatives are there for programs that currently have only one or two semesters of Communications?

5. How can the committee ensure that interpersonal skills are developed in an environment that respects individual value systems and is free from particular agendas?

6. Is the Inventory of Mathematics Skills and Concepts too demanding? Is it too simple? How should the problem of "Math-phobia" be addressed?

7. What means should be employed to deal with resistance to thinking and interpersonal skills as irrelevant and not concrete?

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MEMBERSHIP
OF THE
SUBCOMMITTEES
AND
FOCUS GROUPS

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THE SPRING '93 GENERIC SKILLS SUBCOMMITTEE

JENNIFER BOLT   E & LS
(representing Anne MacKenzie)

AL BUDZIN	ACADEMIC SKILLS
ANNE CARR	BUSINESS
FRAN DUNGE	STAFF DEVELOPMENT
DOROTHY ELLIS	HOSPITALITY
ITA GRANT	LIBRARY SERVICES
MARILYN GRANT	DIPLOMA NURSING
RICK GRAYSTON	TECHNOLOGY
PAUL HOLLOW	COUNSELLING
KAY KASZUBA	FASHION
FRED KNITTEL	FASHION
LOUISE KRUITHOF	TECHNOLOGY
PETER LOVRICK(CHAIR)	E & LS
SHEILA MACMILLAN	EDUCATIONAL ACCESS
MALCOLM MACNEIL	REMEDIAL MATH

DOUG JULL	ENGLISH AS A SECONDLANGUAGE
LINDA OAKES	COMMUNITY SERVICES
KAY OXFORD	E & LS.
DAVID PARKER	E & LS.
MARILYN RINALDO	CON. ED.
DOUG STULLA	ALLIED HEALTH
BARBARA TAYLOR	TRAINING AND EMPLOYMENT
MARIANNE TAYLOR	E & LS
MARGUERITE WALES	EDUCATIONAL ACCESS

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THE FALL '93 GENERIC SKILLS SUBCOMMITTEE

AL BUDZIN	ACCESS
BARBARA DYCE	INTERPERSONAL SKILLS FOCUS GROUP
BRUNO FULLONE	MATHEMATICS SKILLS FOCUS GROUP
DOUG JULL	ENGLISH AS A SECOND LANGUAGE
WILLIAM JURANIC	COMPUTER SKILLS FOCUS GROUP
ED KSENYCH	GENERAL EDUCATION TASK FORCE
HANK LEE	ACCESS
PETER LOVRICK	CHAIR
JOHN LUCKMAN	CRITICAL THINKING FOCUS GROUP
NANCY NEWGREN	COMMUNICATIONS FOCUS GROUP

COMPUTER LITERACY FOCUS GROUP

PAUL BALOG	MATH & SCIENCE
JENNIFER BOLT	E & LS (CL)
ANNE CARR	BUSINESS
DOUG COWLING	E & LS
WINSTON CHEUNG	INFORMATION SYSTEMS
PETER GOULDING	CAL CENTRE
AVRILLE HEADLY	E & LS (CL)
WILLIAM JURANIC	TECHNOLOGY
PETER LOVRICK	E & LS (CL)
JACKIE RAMO	EDUCATIONAL RESOURCES

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INTERPERSONAL SKILLS FOCUS GROUP

JOHANNE CLARE — E & LS
BARBARA DYCE — ACADEMIC SKILLS
FRAN DUNGEY — STAFF DEVELOPMENT
PETER LOVRICK — E & LS
LINDA OAKES — COMMUNITY SERVICES
KAY OXFORD — E & LS
SHEILA MACMILLAN — SPECIAL NEEDS
BARBARA PIMENTO — ECE
CLAIRE SMITH-VICTOR — STUDENT SERVICES
BARBARA TAYLOR — TRAINING/EMPLOYMENT SERVICES

COMMUNICATION SKILLS FOCUS GROUP

KENT BAKER — E & LS ST. JAMES
JENNIFER BOLT — E & LS CASA LOMA
DOUG COWLING — E & LS ST. JAMES
DAVID FOOTE — ACADEMIC SKILLS
PETER LOVRICK — E & LS CASA LOMA
PAUL MISKIN — E & LS (N/K)
NANCY NEWGREN — E & LS CASA LOMA
PETER SANDERS — E & LS CASA LOMA

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ANALYTICAL SKILLS (CRITICAL THINKING, PROBLEM SOLVING) FOCUS GROUP

HOWARD GERHARD	E & LS
JUDY HERNANDEZ	ACCESS
DOUG HOPE	ACCESS
FRED KNITTEL	FURNITURE
ED KSENYCH	E & LS
ED KUNTZ	ESL
PETER LOVRICK	E & LS
JOHN LUCKMAN	E & LS
LINA MEDAGLIA	E & LS
PAUL MISKIN	E & LS
MARIANNE TAYLOR	E & LS

NUMERACY FOCUS GROUP

GREG ANOZIE	COMPUTER SCIENCE (CL)
PAUL BALOG	MATH & SCIENCE (SJ)
KATHY DOWNEY	ALLIED HEALTH (CL)
BRUNO FULLONE	APPLIED STUDIES (SJ)
MARIA GRANSHAW	MATH & SCIENCE (K)
PETER LOVRICK	E & LS (CL)
ANNE MACKENZIE	E & LS (SJ)
MALCOLM MACNEIL	ELECTRONICS (K)
KAY SINGH	MATH & SCIENCE(SJ)
DON ST. JEAN	MATH & SCIENCE (SJ)
RON WALDIE	ACADEMIC DEAN
DIANE WARDROPE	MATH & SCIENCE (SJ)
GARY WATERS	MECHANICAL SYSTEMS, (CL)

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