

considerable repetition of ideas and behaviors in each chapter can be justified in the same way; even when the authors seem to be repeating the obvious, their redundancy provides effective review and reinforcement. As it is implemented here the programmed approach not only creates interest by actively involving the reader in decision making throughout the entire text, it also allows for points to be made and errors to be corrected immediately *within the context* of explicit, realistic illustrative material.

The implementation of a programmed learning approach is a definite plus, but the text is not without its faults. In fact the first of these relates to the graphics or lay-out problems that seem common to many programmed learning texts. Simply put, the text is awkward to use. Flipping pages back and forth, trying to find the beginning of a new vignette when all the frames look alike, "cheating" by looking down the page where the right answer is given, overcoming the tendency to read everything thereby either reducing the impact of making the right choice or picking up as many bad habits as good — all of these difficulties related to format are apparent. At the very least one might have hoped for the "answer" frames to be shaded differently than the "problem" frames. Better still, the authors might consider adapting this text into a computer learning program. The quality and practicality of the programmed content suggest that a fine computer program could result from such an effort.

A more significant shortcoming crops up in the title, preface, and introductory chapter: the authors tend to claim that their text and its method can be all things to all people. To begin with the reader is misled to believe that the book is about interviewing and effective communication in general. The authors imply that the material presented applies more or less equally to day-to-day interpersonal communication and interviewing of all types. The book is actually much more narrowly focused than that. In fact, it does an excellent job of presenting and illustrating communication skills basic to the *helping* interview in which the interviewer acts primarily as facilitator to a client who needs support or assistance in clarifying and solving personal problems, especially problems for which the client already possesses the information and skills needed to resolve the difficulty. There is overlap of technique, of course, but the book is not particularly effective if we are to view it as a basic text in interpersonal communication. Nor is this likely to be a very helpful resource to someone seeking simply to gather or give information such as a journalist interviewing a confident company president or a physician in the process of trying to make certain that the patient understands complex treatment alternatives. Virtually all of the examples in the programmed dialogues are set in one type context: the supportive counselling or problem solving session with two participants who are labelled as interviewer (i.e., helper) and client (i.e., helpee). Furthermore, all of the publications listed under "Additional Resources" are books on counselling, therapeutic psychology, or the helping interview. Regarding style and depth of content, the straight forward, appropriately repetitive, skills oriented text provides a strong introduction to the helping interview for the uninitiated layperson, student, professional or other individual interested in improving helping skills. While experts or more advanced students will likely gain little new cognitive knowledge, they will find the book and its method valuable for purposes of review and reinforcement of essential skills or as the basis for a self assessment inventory. The fault, then, lies not in the authors' emphasis on the helping interview but rather in their overstatement regarding perceived target audience and breadth of focus.

The introductory material is also somewhat flawed inasmuch as the authors seem to overstate the value of the programmed learning text as a self contained unit and understate the text's usefulness as *part* of a training program for improving interviewing skills. The text is likely very helpful as a means for teaching cognitive information memorably and in context, reinforcing certain skills, and influencing attitudes regarding interview techniques appropriate to the helping interview. While the text gives considerable practice defining and recognizing appropriate responses to clients as well as limited practice in creating such responses, it cannot provide experience in applying these skills in actual practice. For the latter, training practice and systematic, descriptive feedback from others are particularly important. Although they seem to recognize this, the authors nevertheless give practice with feedback too little emphasis here.

On balance the book's strengths far outweigh its shortcomings. Within the limits noted above, this well-written text is useful, engaging, and well worth attention for both its content and its approach.

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Maier, N. (ed.) *Teaching the Gifted, Challenging the Average*. Toronto: University of Toronto Guidance Centre, 1982.

This reviewer was more often impressed than not with the nine descriptions of the "accelerated curriculum for

the academically able student twelve to seventeen years of age'' prepared by teachers at The University of Toronto Schools.

Especially impressive was the manner in which each teacher has apparently integrated a sound *philosophy* for educating the gifted with a clear understanding of the *psychology* explaining how these able students learn and develop socially, emotionally, and intellectually — and has then translated these foundational understandings into a tested *pedagogy* of appropriate teaching/learning methods. It is also impressive that these teachers have apparently attained the same broad goals they attempt to promote with gifted students — namely, the development of lateral thinking that enables them to expand their perspectives to perceive the "big picture" or pattern in seemingly disparate or novel phenomena, the development of creative problem-solving skills and an attitude of question-asking rather than just producing "right" answers, and the conceptualization of a personal worldview. These personal attainments plus their vast experience teaching gifted students enables these teachers to provide a variety of emulatable models who demonstrate the very skills, attitudes, and conceptual frameworks that they want their students to learn while avoiding conformity and developing their own individuality.

Instead of simply transmitting masses of information in a prescribed curriculum for the purpose of getting gifted students to attain predetermined learning outcomes, these teachers provide instructional input in a synergistic manner that interacts with student queries to motivate independent, creative, intelligent student achievements. Because these are the goals, this book does not contain detailed curricula for the nine subject areas discussed. Hence, readers will have to adapt the useful ideas presented to their own gifted students based on their particular interests and needs.

These teachers also make creative use of many mainstays of formal education, such as drill in promoting knowledge of specifics, providing "guided discovery" as well as direct instruction needed for leading students to the point where they can self-direct their own learning, requiring students to learn basic concepts, skills, procedures, and processes in each subject area so that they can use these tools eventually to perceive the interconnectedness between subjects.

In Chapter I, Edward deBono sets forth the theme of this book when he asserts that it is necessary to teach thinking skills to the gifted in order to prevent them from falling into the "intelligence trap" of believing that they cannot be taught how to think better since they know they are intellectually superior, of arrogantly using their logical thinking skills so quickly to reach the one right answer that they fail to consider viable alternatives, of cleverly arguing for their own position without being able or willing to consider other viewpoints. To counter this tendency to engage in such destructive thinking, deBono advocates setting up situations that force gifted students to think constructively by developing a conceptual framework for understanding and applying knowledge rather than simply amassing factual information and by developing a perceptiveness to alternatives that leads to wisdom rather than just logical thinking that leads to right answers.

The nine teachers contributing to this book accept deBono's contentions and translate them into educational practices in nine subject areas. For example, in teaching the "First Language," Norah Maier has found that "success creates rigidity" in that gifted students will continue to fulfill teacher expectations in a rote manner if they receive high marks for doing this. Therefore, she disorients students so that they must read creatively to consider a multiplicity of approaches and develop the interrogative habit of posing questions and reading between the lines rather than simply reading to find the required answer. Then, she awards high marks for doing these things. Maier gives several examples of how she provides direction and drill to enable students to develop these skills. While doing a novel study, students compare the opening and closing paragraphs of twenty novels instead of analyzing one novel intensively. Also, students submit a Writing Portfolio in which they present the original formats they have developed for creatively comparing a variety of books, magazines, etc.

To prevent mathematically gifted students from mechanically applying algorithms to given information as they solve math problems — which Alan Fleming contends these students enjoy doing — Fleming provides daily problems requiring varied kinds of pattern recognition and problem restructuring in accordance with A. N. Whitehead's definition of mathematics as "the study of possibilities." He structures "guided discovery" experiences with geoboard problems and problems such as "How can you put 21 pigs into 4 pig pens so that there is an odd number of pigs in each pen?" Fleming cites 13 sources of math materials, puzzles, and games that keep students actively thinking and challenging one another to expand their math skills.

The development of a personal worldview is the broad goal of Lynda Duckworth's "idea-systems" approach to teaching geography in Chapter 4. Although her two-dimensional model does not clearly illustrate how her students progress from an intuitive to a conscious awareness of geography-related concepts, she clearly explains this progression in a grade seven mapping example, in a detailed description of how students design educational games (including one example called "Employment") that are based on popular board games such as

"Monopoly," and in the examples of portfolios students prepare and present to classmates while playing the role of "development minister" for a developing nation. Each of these active learning approaches requires students to overcome their egocentric, Western perspective towards the world and to recognize the necessity of meeting everyone's economic, social, and political needs in our "global village" world.

William Montgomery describes in some detail how he teaches the "history of ideas" in a series of philosophy courses because he believes that gifted students can range beyond the limits of "values-clarification" exercises and "moral-education" courses. The introductory course aims to excite students as they attempt to answer some fifty questions such as "Who am I?", "Why is it better to be good than bad?", "Who is God?" In the second course, students study in depth the history of ideas relevant to these and other philosophical questions, as proposed by pre-Socratic philosophers, by Socrates, Plato, and Aristotle, by medieval thinkers, by rationalists and empiricists, and by Hegel. The broad goal is to develop the skills needed to conceptualize one's own philosophy of life and the world in such a way that one does not become dogmatically tied to absolute certainty, and to understand the relation of philosophy to other subject areas.

In teaching physics, Darcy Dingle utilizes a three-by-four matrix. The horizontal axis depicts three types of physics teachers and their main emphasis in teaching — namely, empirical experimentation, mathematical problem-solving, or the history of scientific ideas and biographical studies of famous scientists. The vertical axis is based on simple-to-sophisticated levels of desired student learning outcomes. At the exposure level, students learn to *appreciate* physics by going on fieldtrips and by doing lab exercises (e.g., Pretending to be electrons moving along a circuit). At the rote-functional level, students learn *proper procedures* for calculating answers to physics problems after receiving instruction and practising this. At the understanding-functional level, students learn to *identify problems and data relevant for their solution* as a result of the teacher providing novel problems that force Piagetian-type mental accommodations. At the creative-synthesis level, students learn to *postulate a relationship between phenomena* previously regarded as unconnected or disparate when the teacher presents a novel physical situation to the class and challenges them, to invent a hypothesis that accounts for as many of their observations as possible.

The music teacher looking for detailed curriculum ideas will likely appreciate those provided by John Fautley in Chapter 7. Not only does he list a progression of ideas for promoting creativity in music composition, for motivating improvisation, and for encouraging listening to identify the distinctive styles of different music periods, he also clearly describes the variety of teaching methods he employs in doing each of these things (e.g., Teacher demonstrations, having students initially emulate established genres of classical and popular music, providing "guided discovery," etc.).

Chapters 8 and 10 would have been more logically placed after the deBono chapter because each provides a conceptual framework for understanding subsequent chapters owing to the emphasis each places on the characteristics of giftedness and the importance of selecting gifted teachers and administrators to provide suitably specialized programs. For example, Frederick Speed spends relatively fewer words discussing science education per se than he does surveying some of the important literature on giftedness and creativity to emphasize the necessity of educating all gifted students and especially four often-neglected types: the underachiever, the loner, the rebel, and the independent thinker. Similarly, Donald Gutteridge's suggestions for establishing a proper learning environment would seem more useful at the book's beginning since they do not summarize preceding chapters.

Chapter 9 containing Maria Collier's brief description of how she enables students to develop proficiency in a second language could have been more easily contrasted with Maier's more detailed chapter on teaching the first language had the two been situated together.

In conclusion, while this book provides many useful ideas and reasons for teaching the gifted, it will probably disappoint those readers looking for a quick panacea in the form of a recommended step-by-step curriculum for teaching the gifted since this is contrary to the philosophy of the contributors. Those readers interested in "challenging the average" will also likely be disappointed in this book because there is virtually no mention of how to do this per se except in connection with teaching the gifted. However, for those gifted teachers with the ability to ferret out the practical ideas from the interwoven philosophy and psychology supporting these ideas, this book is certainly informative, interesting, and worth reading since it describes what a whole school of teachers is actually doing as well as the conviction they have in doing this.

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