

Teaching Values of College Workbooks in Geography and Geology

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Teaching values of college workbooks deserve consideration in geography and geology inasmuch as they are widely utilized by many instructors at our higher institutions and it is generally accepted that supplementary materials besides the textbook are a necessity. Whether identified as a workbook, exercise workbook, handbook, laboratory manual, manual, or supplement to the textbook, they are recognized by most authorities as an integral part of the course offering. Reasons for their use and their contribution toward reaching objectives in a subject are worthy of critical consideration. If it can be shown that they are the most effective teaching tool, then their broader application to these two earth science fields might be justified and encouraged; to consider this is the basis of the study.

Essentially, college workbooks are designed to contribute additional information, explanation, mode of accomplishment, guidance, review, and testing helpful to the student in pursuing the course. Such provision of workbook aid for the students facilitates the teacher's task of showing objectives of the course and limits the explanations and directions necessary for accomplishment of assignments and projects.

Workbooks usually are constructed so as to permit filling in of answers to questions and to allow drawing of diagrams, charts, maps, outlines, and other study and memory devices. They frequently serve as guides to the method and procedure in study and laboratory work. They may present different points of view, terminology and application than the textbook so as to broaden students' knowledge. There is a section usually provided for review, testing or writing of a summary, or for additional work to check learnings, performance of techniques, and interest in the subject of the lesson.

For laboratory and outside of classroom use, workbooks are considered to be of particular guidance value. Under such circumstances, where the laboratory supervisor, student proctor, parent, or the student himself has limited resources from his own knowledge, it is requisite that he follow principles and procedures to reach desirable achievements in learning. Even under a skilled instructor in class or laboratory, it is worthwhile that the student, pair, or the group, proceed by following printed instructions and advices so as to develop ability and skill in accomplishment of problems when left to personal resources.

Detailed information in the form of illustrations, statistics, tables, maps, classifications, and even background textual materials are given. The form and style for preparation of laboratory exercises, field reports, reading reports, and term papers commonly are provided. Also, there are references to books of a general or specific nature. Data more recent than that available in the textbook are incorporated. Reiteration of chief points and reviews sometimes are included. As a source of additional information beyond the textbook and classroom learnings, workbooks play a vital part in students' acquisition of knowledge and performance.

In evaluation, it is enlightening to consider the opposite kind of situation wherein presentation of college information is attempted without the use of the workbook. In some cases only the textbook is required. In others, students in addition refer to a reading list, read a pocket edition volume or utilize an atlas, follow a single-sheet exercise, or prepare a term paper.

Solely utilizing the textbook leaves much to be desired since most textbooks particularly attempt to cover an entire field of knowledge or a wide area in a subject promulgating board generalizations and seriously limiting

the number of examples. Students for comprehension require application of such generalizations to see their values, their limitations and exceptions, and their practical utilization. Further examples clarify concepts. These steps in learning, beyond the textbook, it appears, may be effectively undertaken by workbook study and completion.

Reading lists to supplement the textbook prove helpful for the attention of students is directed to other reading matter that broadens study and viewpoint, but in such a case they are literally "snowed under" with information while different points of view confound and lead to misunderstanding. Only mature students can cope with this approach and there is always the temptation to superficially read assigned extra materials. Availability of the listed readings may prove serious if it can be checked out on a "first come, first served" basis, or if it can be checked out for only a short time, such as one hour, under a reserve-desk system. In contrast, a workbook is available to all at any time, the information is treated in a systematic manner, and all of the materials are at hand, readily provided, or alternate sources recommended.

When the textbook is supplemented by the use of as burdensome and costly an item as a pocket edition volume or atlas it is quite unsatisfactory when a small workbook would suffice. Both of these are usually not self-explanatory and call for attention in the form of classroom reference or more supplementary materials. A common occurrence is for students to forget to bring them or to damage them by dropping or by the weather.

Use of single-sheet handouts, packets of maps, illustrations or diagrams, and other reproduced matter may bring about chaos. The handout form creates many problems of production, distribution and collection. Assignments may be turned in following some haphazard manner that makes recording and keeping of records difficult. In utilizing such materials, students who happens to have a better set of instructions, more suitable help, or who happen to have a more artistic touch may receive a better grade. Legitimate absences may lead to not receiving notification, directions and materials which creates embarrassment of unsatisfactory and incomplete work. The workbook resolves these problems in advance by forestalling their occurrence.

Term papers to complement the textbook tend to be superficial in content with much copying of information and even plagiarizing. Frequently, the broad principles to be learned are lost in a maze of reference materials and wealth of words. Those students who are good typists and illustrators have considerable advantage. Seldom do term papers contribute materially to pupils' knowledge for accomplishment of the final examination of a subject, a condition which indicates their limited value in primary learnings. There is no gainsaying certain values accrue from term papers, but these appear to be more closely related to development of writing ability and other outcomes more suitable to a restricted number of upper division majors and graduates rather than for students acquiring basic backgrounds or specific groundings in a subject, at which level college workbooks commonly are utilized.

The cost factor of workbooks to students oftimes has been exaggerated that is unjustifiable when the facts are considered. Conservatively estimated, usually the price of a workbook is about one-fourth to one-third that of the textbook or approximately one-sixth to one-fourteenth that of the tuition of the course. If the total cost in pursuing a three hour course amounts to some \$150 to \$200, this expenditure is small. By comparison, the workbook price may be considerably less than that of an expensive atlas. Generally, the cost will be about one dollar higher than other types of supplementary material of handout form; therefore it proves a bargain based on the number of pages and quality of reproduction.

Relative cheapness, as well, compared with the textbook allows for more frequent changes to eliminate errors and omissions, to give new points of view or emphasis, and to allow for limited experimentation with new methods of presentation where it would be too costly to publish a textbook in such a form. For this reason, widespread use in new fields of study and inquiry is commonplace while later a textbook may transplant or encompass a portion of the materials. A workbook often provides for considerable review and repetition and even for an answer key and series of tests, not often permitted in a textbook. These are of considerable value to the teacher and student alike. Since little is invested, the workbook can become a permanent reference for the student; by way of contrast, the textbook usually is sold and is not at hand.

Departmental expense of locally reproducing materials can be great. If the time utilized by stenographer, duplicator operator, and instructor is computed, and the operation time of typewriter, duplicating machine, collating table, and stapler are added along with cost of materials, paper and storage, it may total a burdensome load. Moreover, all this time, effort and cost is lost that might better be utilized for lesson preparation, research accomplishment, departmental upkeep, and purchase of additional audio-visual training aids and research equipment.

Condemnation of workbooks thinking they are less authoritative than textbooks is faulty reasoning since both publications are often the work of the same persons or departments or other authoritative writers. If both textbook and workbook stand the test of time, they presumably are equally sound. Textbooks frequently suffer from the inertia of publishers who do not desire too great revision of a book and from lack of interest of writers who do not wish to trouble themselves; both know that sales probably will continue even when materials are outmoded. Workbooks, on the other, are highly competitive and printed in limited number so that both publisher and writer recognizes the desirability of keeping them current. Cost to the publisher and effort for the writer is considerably less. Actually the matter of how authoritative workbooks are is not significant in this case and a far more important question is, "How authoritative and well written are supplementary materials that are being utilized by those who disdain workbooks?"

Supplementary materials prepared locally may be of less quality than workbooks for there are only students and members of the department to criticize. In fact, it is rather common practice for other staff members, since they are engaged in their own specialties, to ignore daily type of supplementary matter of their colleagues. In some cases development and selection of such matter is relegated to younger members of the staff. A one man department might have no supervision. Workbooks, instead, must stand initial scrutiny by a department, editors, and a publisher, and final examination since they are widely distributed and carry the name of the writer, department, editor and publisher. Inspection and continued evaluation preclude weak, poorly written and erroneous matter.

Besides, campus prepared materials frequently lack inspiration, interest and attractiveness of workbooks because veteran manuscript writers, illustrators and printers are more skilled in their work. Too, the continuity of an entire publication is lacking in piece-meal prepared materials, even being written by different staff members in some cases. Under such conditions, students see little relationship of supplementary materials to the subject and feel engaged in so-called "busy work". This indictment may hold true for workbooks usually follow, by contrast, a careful time allotment for a particular phase of a subject. Poor reproductions, numerous errors in spelling and grammar, poor spacing, and even omissions are commonplace which complicate use of such departmental made materials.

With the innate conservatism of instructors in geography and geology and the desirability of having in students' hands additional study matter other than the textbook, it appears that as the total number of college students continually rises and more students center their interests in the two fields, there will be greater demand for workbooks which by comparison with other media most satisfactorily meet the need. As classes grow larger and teachers become scarcer, there will be greater stress on students being self-reliant and capable of resolving their own problems in learning commensurate with the circumstances. Thus, it appears, likely that the most effective supplementary instruction tool—the college workbook—will be more in demand to meet growing needs of teachers and students of geography and geology in the years ahead.