

Discussion Notes / Débat

*The Anatomy of Curricular Integration**

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Integration has long been a fact of educational life—more accurately, it is an unavoidable feature of educators' work. Any intentional uniting or meshing of discrete elements or features constitutes some form of integration. The very act of learning typically involves integration—new beliefs are filtered through and connected to the individual's prior beliefs. Despite its ubiquity, educational debate about integration has been contentious, but not contentious about its merits. Who would want learning to be fragmented? Rather, the polemics are rooted in ambiguous and loose conceptions of what is intended (Dressel, 1958, pp. 7–8; Jacobs, 1989, p. 6).¹ There are, beginning with Plato, countless ways integration occurs in education. We educators should be explicit about the varieties of integration we recommend.

I wish to anatomize the amorphous notion of integration, identifying factors educators should consider when deciding about curricular integration. More specifically, I examine eight formal components of integration: domain, form (including elements), dimension, objective, mode, locus, coherence, and degree. By defining and explaining these components, and by pointing out implications of the distinctions among them, I hope to facilitate discussion of and planning for curricular integration. Finally, I offer a brief prognosis of the current interest in curricular integration.

DOMAINS OF INTEGRATION

The “domain” of integration is the broadest category of components of integration, that is, the general field of human or natural endeavour wherein integration occurs. Integration, the uniting of discrete elements into a whole, occurs in such varied fields as economics (for example, integrated econ-

*This paper forms a part of a larger research initiative on curricular integration in the Tri-University Integration Project (Simon Fraser University, University of British Columbia, and University of Victoria) supported by the Ministry of Education, Province of British Columbia.

omies), electronics (for example, integrated circuits), and sociology (for example, integrated communities), and may divide further into subdomains. In education two obvious subdomains are integration of classrooms or schools and curricular integration. Classroom (or school) integration refers to ways of constituting class (or school) membership so that segregation along certain lines is reduced or eliminated. Thus proponents of “mainstreaming” seek to integrate students with physical and/or intellectual disabilities into “regular” classrooms. However, classroom integration can occur along many other lines: gender, race, nationality, socioeconomic background, personality type, behavioral disposition, personal interests, and so on. Integration along each of these lines would be a different form of classroom integration.

This paper’s central concern is curricular integration. It emphasizes the dynamics of integration of educational goals, content, methods, and procedures. I mean both the formal (or planned) curriculum—the learning experiences educators intend, and the informal (or hidden) curriculum—the experiences inside and outside the classroom that determine what students actually learn from schooling.

FORMS OF INTEGRATION

The elements to be united determine the “form” of integration. For example, mainstreaming is distinguished from another form of classroom integration, say that of racial integration, by virtue of the elements each integrates. Integration of the former brings together students with differing abilities; the latter brings together students with differing racial backgrounds.

Among forms of curricular integration are suggested: (a) integration of content; (b) integration of skills and processes; (c) integration of school and self; and (d) holistic integration. Educational outcomes are frequently divided into “content” and “process” outcomes (Brandt, 1988, pp. 3–4). Loosely defined, content refers to propositional knowledge—the substantive beliefs and understandings that educators hope to foster. Processes or skills refer to procedural knowledge—the methodological strategies and abilities that educators hope to foster. Learning about the customs of another culture would qualify as educational content; learning how to conduct interviews (that is, learning “the interview process”) would qualify as a skill.

Integration of content means connecting the understandings promoted within and among different subject areas or disciplines. For example, a course on environmental problems might integrate information from biology, geology, economics, and cultural anthropology. Integration of skills and processes refers to so-called generic skills and processes. The call to “teach reading and writing in the content areas” is an example of integrating reading and writing “skills” into subjects such as social studies and science. The defining elements of this form of integration are generic skills and

processes. The defining elements of the integration of curricular content are the discrete understandings and “pieces” of information we want students to acquire.

Another form of integration, what I call integration of school and self, refers to the integration of what students study in school (both “content” and “processes”) with students’ concerns, desires, needs, queries, aspirations, dilemmas, and so on. The discrete elements of this form of integration are aspects of school curriculum, and “things” that students care about. For example, showing students how they might use geometry in pursuing their outside interests would be an attempt to integrate school and self.

Finally, holistic integration refers to the integration of all further school-related experiences not expressly identified in the other forms of curricular integration. Elements of this form of integration include formal and informal practices, routines, methods, rules, and school-based influences on students’ learning. Historically, calls for this form of integration arose most often in religious education or political indoctrination (Badley, 1986, p. 75). Proponents of an integrated Christian education, for example, would wish all school influences, including teacher role models and latent messages communicated on the sports field, to support Christian ideals. More generally, writers on the hidden curriculum argue for this form of integration. For instance, although teachers verbally affirm the importance of teaching critical thinking, many teacher-made tests mainly require recall of factual information. The tacit message of such assessment practices powerfully affects what students regard as important. More recently, it has been suggested that the traditional high school timetable, where students are shunted among five or six different teachers every day, impedes student learning (Jacobs, 1989, p. 15).

DIMENSIONS OF INTEGRATION

Tyler’s notion of horizontal and vertical relationships in the curriculum suggests a further distinction significant to integration:

When we examine the relationship between the experiences provided in fourth-grade arithmetic and in fifth-grade arithmetic we are considering the vertical organization, whereas when we consider the relationship between the experiences in fourth-grade arithmetic and fourth-grade social studies, or between the experiences in fourth-grade arithmetic and the fourth-grader’s learning experiences outside of school, we are considering the horizontal organization of learning experiences. (Tyler, 1958, p. 107)

This spatial metaphor suggests that the previously discussed forms of curricular integration operate on two temporal dimensions: integration *at any given time*, and integration *over time*. There may be important consequences to emphasizing one dimension of integration of whatever form at the

expense of integration along the other dimension. Consider for example content integration. The use of theme-based units in integrating curriculum suggests horizontal integration is the most common dimension of content integration. Ironically, this emphasis may undermine efforts to promote vertical integration of curricular content (Knudsen, 1937, p. 22). If everything in one study unit is closely tied to the theme of, say, bears, and the next unit's theme is weather, students going from unit to unit may become increasingly confused about the connections among their studies. In other words, increased horizontal content integration may be purchased at the cost of decreased vertical content integration.

The integration of school and self raises this same question. Preoccupation with the horizontal dimension—that is, integrating units of study exclusively with students' current interests, aspirations, and needs—may undermine students' beliefs about the long-term relevance of schooling. Since many student concerns are of only passing interest and value, we should connect current studies with more enduring student interests. Similarly, successful horizontal holistic integration does not obviate the need for vertical holistic integration.

OBJECTIVES OF INTEGRATION

Tyler (1958) observed that “the effectiveness of curriculum organization in facilitating integration depends on the extent to which it aids the student in perceiving appropriate relationships” (p. 105), thus emphasizing that curriculum integration is a strategy, not a goal. In planning for curricular integration, we should be clear about our objectives, and have grounds to believe our proposed curriculum reorganization will promote desired objectives. Consider briefly the objectives apparently motivating each form of curricular integration considered above. Four interrelated objectives may justify integrating content: (a) dealing with the complexity of the world; (b) overcoming rigid perceptions of subject boundaries; (c) respecting the seamless web of knowledge; and (d) promoting greater efficiency.

The most common motive for content integration is that the world does not completely organize itself according to the disciplines or the traditional school subjects. Many phenomena cannot be adequately understood solely from one disciplinary perspective. To take a contemporary example, to fully understand the Middle Eastern crisis requires (at least) insights drawn from world and regional history, cultural anthropology, religious studies, and economics. In fact, recognition of social complexity spurred the move in the 1920s to integrate various social sciences into the “new” social studies (Case, 1985, p. 52). Note, however, that many phenomena can be understood sufficiently well through a single (traditional) subject. Thus, if the motive for content integration is to make complex phenomena understandable, only when a particular phenomenon cannot be understood sufficiently

well under the existing curricular arrangements would further curricular integration be required.

A second reason for content integration is students' narrow perspective on their school subjects.² Many students perceive subjects as arbitrarily arranged and rigidly separated; consequently, they have no idea how one subject connects with or could contribute to an understanding of others. The difference between the previous justification for content integration and the latter one is that the richer perceptions to be promoted by the latter are not of the world at large but of the subjects students encounter in school.

A third motive for content integration is predicated on the belief that knowledge is a seamless web—all knowledge is interrelated.³ Unlike the first objective, where the motive for content integration is restricted to those occasions where the complexity of the phenomena to be understood requires that connections be drawn, the objective is to enable students to see connections among any pieces of information.

A final motive for integrating content is efficiency. Some educationists suggest that teaching two aspects of the curriculum concurrently works at least as well as teaching those aspects in isolation. In such cases it is more efficient to integrate curriculum content. For example, historical novels might be used effectively to teach about a literary genre and an historical period.

The dominant objective behind integration of skills and processes is functional competence. Often, students are taught how to perform a certain task but cannot transfer the "skill" it requires to another situation. The desired competencies may involve transfer from an hypothetical to a real-life situation, or from application in one subject to another. So-called generic critical thinking skills are particularly relevant candidates for integration of skills and processes. The criteria on which a student might assess the soundness of a theory in history would not be identical to those appropriate for assessing a theory in physical sciences, and "textbook" problems will have to be extended to realistic applications. To acquire competence in assessing theories, students would likely need opportunities to study and to apply the criteria in each relevant context.

Proposals to integrate school and self are generally based on a desire to increase students' perceptions of the relevance of school. In extreme cases students claim to see no connection whatsoever between what goes on in school and their own questions and interests. The most commonly recommended strategy for integrating curriculum, organizing instruction in theme-based units, may not enhance students' perceptions of school's relevance; if the organizing themes hold little significance for students, it could instead exacerbate the problem.

The likely objectives behind holistic integration are to promote efficacy and equity. The complex matrix of curricular, instructional, and administrative practices must be integrated so that they foster (or at least do not impede) achievement of the intended outcomes of education and so that

students who may be particularly vulnerable to failure or discouragement will not be denied equality of educational opportunity.

MODES OF INTEGRATING

Educationists have repeatedly suggested that integration involves making connections between discrete parts in aid of wholeness or integrity. There are at least four recognized strategies for drawing connections between elements of the curriculum (Badley, 1986, pp. 64–77): fusion, insertion, correlation, and harmonization.⁴

“Fusion” refers to joining into a new single entity curricular elements previously taught separately. Meshing English and social studies into Humanities exemplifies fusion.⁵

“Insertion” (Badley calls it incorporation) refers to adding or absorbing one curricular element into a larger constellation of curricular elements. Introducing into a social studies course a few lessons on reading historical documents, or on interpreting the art of an historical period, are instances of insertion. Generally, the integrity and basic structure of the subject into which an element is inserted is unchanged.

“Correlation” implies drawing connections and noting parallels between elements that remain separately taught.⁶ Reference to concepts or skills acquired in another subject, or timing topics so the history and literature of a particular period are taught concurrently, are examples of correlation.

“Harmonization” is another mode of integrating, wherein disparate elements are made compatible with or promotive of each other. Although harmonization involves some changes, the elements are not fused with, or inserted into, other elements. Harmonization is a principal mode of holistic integration, although it is also appropriate with other forms of integration. For example, transfer of skills to other subject areas may be enhanced if teachers agree on a common way to carry out inquiries in various subjects.

LOCI OF INTEGRATION

A further aspect of curricular integration is the locus (or level of decision making) of efforts to integrate the curriculum. There are three obvious loci: the state (in British Columbia, for instance, this is the provincial level), the district or school, and the classroom.

Provincial-level integration emphasizes curriculum and program development. Generally, integration at district and school levels involves changes in scheduling, course delivery, and teacher deployment. At the classroom level, individual teachers have responsibility for planning and carrying out units of study. Any particular mode of integration could be used at any or all levels. Correlation, for example, can involve provincial synchronization of curricula, school-based interdisciplinary teams of teachers, and individual teachers’ attempts to connect subjects.

COHERENCE

Until now, I have implied that curricular integration requires merely that two or more curricular elements be somehow united. This is an incomplete account of the minimal requirements of curricular integration. Although it is always possible to find a common feature or underlying principle among elements, the connection may be trivial. An underlying principle may simply organize the curriculum into a block or constellation; the curriculum may still lack coherence. Suppose, for example, the curriculum were to be organized alphabetically, according to the first letter of each topic taught. The first unit in the curriculum would cover “abbreviations,” “apostrophes,” “archaeology,” “atlases,” and so on. The underlying principle of the units (all topics in a unit start with the same letter) provides no educational coherence—connections within and among the units are contrived and trivial. Although this example is obviously silly, it illustrates well that not all possible connections among elements are educationally significant or worthwhile.⁷ A principle provides coherence if it imbues the curriculum with an educationally significant unity or integrity.⁸

The traditional complaint against integrating different disciplines is that this has led to “vagueness, lack of precision, and a failure to offer training in disciplined thinking” (Taba, 1962, p. 191). This may be due, at least in part, to educationists’ failure to identify an educational significant principle (or set of principles) that would give coherence to any multidisciplinary study. The disciplines, for all their narrowness, provide strong integrative principles: disciplines are fields of inquiry that share common standards for evidence, a set of fundamental explanatory concepts, and, generally, established methodological procedures (Hirst, 1978, pp. 132ff.).

DEGREES OF INTEGRATION

A further dimension of curricular integration insufficiently appreciated is that of the degree or extent of integration. Some educationists believe the more curricular integration, the better. This view is at best misleading, more likely incorrect. I suggested that one objective of content integration is to assist students to see how material covered in one subject connects with material covered in another. Although this justifies some integration, it is not obvious that it warrants fusion of such subjects as English and social studies; occasional correlation of the subjects by English and social studies teachers might sufficiently establish the point. Our integrative efforts often have hidden costs. Certainly an obvious trade-off arising when fusion is the dominant mode of integrating content occurs when educators are required to teach outside their developed areas of expertise.

Taba’s (1962) classic work on curriculum development emphasizes the need to recognize the multiplicity of factors at stake and to not aggrandize the role of any single principle. After she criticizes the myopic oversimplifi-

cation of those who would regard either child-centredness or subject-centredness as the *sole* foundation for the entire approach to curriculum, she adds:

A similar tendency is illustrated by the way that the principle of integration of knowledge is applied in discussions of the core curriculum. According to theoretical statements, the chief principle of the core curriculum is supposed to be integration of knowledge. Yet trouble brews if this simple principle overrides the consideration of the unique requirements of the various areas of knowledge and if integration is effected without sufficiently considering what the appropriate threads of integration might be and what aspects of the content of various disciplines can appropriately be brought together. (p. 414)

CONCLUSION

Curricular integration has been a serious, recurring educational recommendation. This pattern has a double-edged message. In support of integration, the recurring call for greater curricular integration testifies to persistent and important inadequacies in our curricular arrangements.⁹ Against integration, the fact that, for the most part, these calls have been ignored or rejected suggests the appropriateness of reservations and care in implementing curricular integration.

Many current proposals for curricular integration are analogous, in at least two ways, to treating undernourished persons by promoting gluttony. First, much popular rhetoric about integration implies that integration in any form will meet students' needs for a more integrated curriculum. This is analogous to recommending that undernourished persons simply eat more. Both strategies are based on an inadequately crude diagnosis of the root problems—an undernourished person often needs specific nutrients, not merely calories; so too, students' needs for integration are not undifferentiated. Students who crave greater curricular relevance will not be satisfied by a curriculum whose content is simply more integrated horizontally.

Second, the push to maximize curricular integration is as dangerous as urging that undernourished persons eat as much as possible. Contrary to the familiar adage, one *can* have too much of a good thing. For example, students who don't see how science has anything to do with music need not always be shown every possible connection between the two subjects. Integration of discrete curricular elements is purchased at the expense of the benefits of studying unique features or of undertaking in-depth inquiries. By promoting excessive integrative measures we may undermine the health of our educational system, by creating additional and possibly more serious problems.

Of course, we must not allow these potential pitfalls to be used as excuses not to attend seriously, or carefully, to the present lack of curricular integration in its various forms.

NOTES

- ¹ Ciccorico (1970) provides a short history of the term "integration" from 1855 to 1968. For a bibliography of three hundred titles on the topic, see Clark (1991).
- ² This motive is suggested by Dressel's (1958) observation that the underlying goal of integration is "to replace a mystifying mosaic of many separated courses and unrelated extracurricular experiences by an educational program which has unity in the eyes of most students" (p. 23).
- ³ In his classic article on this subject, Pring (1973) raises fundamental epistemological questions about this view.
- ⁴ I do not use all of Badley's terminology, but the basic conceptions are those he identifies. Dressel (1958, pp. 15–16) shows that confusion about the term "correlation" dates back to 1895.
- ⁵ Sometimes the combining of English and social studies into "humanities" amounts to little more than teaching English the first half of a double block and social studies the second. This would not be fusion, although on occasion it might involve other modes of integrating.
- ⁶ Some writers (Oliva, 1988, p. 504) contrast correlation with integration; others see it as one mode or type of integration (Dressel, 1958, p. 16).
- ⁷ This concern is not entirely hypothetical, as evidenced by the following: "Organizing integrated learning experiences reflects an orientation that acknowledges the interconnection that exists between and among *all* things" (emphasis added; Ministry of Education, 1990, p. 27).
- ⁸ See Case (1985, pp. 58–64) for discussion of the distinction between principles of organizing and of "integrating" in the context of the social studies curriculum.
- ⁹ Speaking for the blue-ribbon committee preparing NSSE's 1958 yearbook, Dressel (1958) writes, "the committee came to feel that this problem of integration is truly the central problem of education" (p. 5). Jacobs (1989, p. 3) reports that a 1988 sampling of key educational leaders in the Association for Supervision and Curriculum Development identifies curricular integration as the top priority.

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