Engaging early adolescent students in their learning via student-centred curriculum integration

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Student-centred curriculum integration or ‘integrative curriculum’ offers much to educators who want early adolescents to actively engage in their learning (Beane, 1990 & 1997). Moreover, integrative curriculum designs have the capacity to be highly responsive to the developmental needs of young people at the middle school level. In contrast, subject-centred ‘multidisciplinary’ or ‘interdisciplinary’ designs frequently fail to respond to the needs of early adolescents.

In this paper we examine various notions of integration and explain their role in curriculum design. We compare and contrast features of multidisciplinary and integrative curriculum designs with respect to the educational and developmental needs of middle level students. In particular, we articulate a theory of integration implied in John Dewey’s writing and explain why his holistic approach to curriculum design and pedagogy remains highly relevant to middle level curriculum design.

Introduction
In this paper we put a stake in the ground regarding early adolescent education for now and the future. We do this by declaring that while early adolescents in Australian and New Zealand schools experience teacher-centred and teacher designed subject based curricula, student-centred integrative curricula are the preferred form of school curricula that these students need and deserve now. By and large the schools in both countries that cater for early adolescents either do not know about integrative curricula or they are overly dismissive of them. The paper argues that (secondary) schools’ and teachers’ lack of knowledge and frequently dismissive attitudes may be due in large part to systematic ambiguity about the meaning of integration and the plethora of terms that are taken as synonyms for it. They include such terms as integrative, interdisciplinary, multidisciplinary, cross-curricular and other terms. The conceptual analysis of the paper seeks to clarify what curriculum integration means and suggests future directions for middle schooling in Australia and New Zealand. The paper: (i) gives a brief account of the empirical evidence supporting integrative curricula as a precursor to; (ii) showing how the integrative concept has emerged from a well-established tradition of curriculum theory and practice; but (iii) explains how the predominant subject-centred tradition supports another competing “integrated” curriculum model; and (iv) argues that while subject-based curricula may serve some educational purposes well (for example, the specialised needs of senior secondary students), that student-centred integrative curricula are best suited and best justified for middle schooling.

Our position is that the evidence of empirical and theoretical research backs up the argument. We acknowledge that powerful forces, not the least teachers own conceptions and views of themselves as subject teachers, commonly stand in the way and may continue to do so, thus curtailing or impeding the acceptance of integrative curricula as a preferred direction. Nonetheless our view is that hope for the future lies
in schools’ and teachers’ willingness to recognise that integrative curricula and allied teaching methodology is deserving of serious trial.

**Empirical evidence in favour of student-centred curricula**

An abundance of empirical evidence now is available to support the efficacy of curriculum integration designs and their widespread use in middle level schools and for middle schooling more generally. In his review of more than 100 studies of curriculum integration over a seventy-year period, Vars (2000) concluded that students in interdisciplinary programs do at least as well as students in conventional single-subject programs. New Zealand research (Nolan & McKinnon, 2003) in a five year longitudinal study went further by demonstrating empirically that integrative curricula programmes generated achievement effects in the order of one standard deviation above the norm in national School Certificate results for English, mathematics and science. Other confirmatory research in the USA (Beane, 2006) has shown that schools implementing middle schooling philosophy and more especially integrative curricula programmes, with a high degree of fidelity over an extended period, accomplished the following three outcomes, namely:

1. They achieved statistically significant student outcomes on both academic and affective measures over schools less committed to this approach in the areas of language arts, mathematics, social studies, and science;

2. Students in integrated curricular programmes consistently out-performed students in traditional classes on national standardised tests, on state-wide tests, and on programme based assessment; and they

3. Showed statistically larger student growth on the same measures across the middle years of their schooling, than students in other schools.

According to Beane, the outcomes discounted, “the possibility that the results were forecast by prior differences among the students” (2006:5). The programmes that achieved these results by and large were of the student-centred integrative curricula type commonly associated with the progressive educational tradition founded by John Dewey. Yet, in the USA, at least, advocates of other forms of interdisciplinary and multidisciplinary curricula are being promulgated as integrative despite this not being the case, and despite a dearth of empirical evidence to support either their effectiveness or their developmental and educational appropriateness for early adolescents.

**Curriculum integration in middle schooling**

According to researchers in the Dewey progressive tradition such as Beane (1997 & 2006) and Vars (1997), the primary purpose of the concept of curriculum integration in middle schooling is to resituate subject matter into relevant and meaningful contexts. Consistent with this view, Gehrke (1998) defined curriculum integration broadly as a collective term that encompassed programmes that teachers designed for, and with, students to recognise their own learning strategies and to create their own learning, in contrast to the more common teacher strategy to delineate disciplinary boundaries around kinds of learning. Several case studies of curriculum integration in American middle schools (Brazee & Capelluti, 1995; Pate, Homestead & McGinnis, 1997) have shown that student-centred designs in this genre respond well to the
developmental needs of early adolescents. In their review of middle schooling, Beane and Brodhagen (2001), however, tend to confuse the matter when they say that substantial evidence supports multidisciplinary and integrative approaches to curriculum and show that both comparatively are more effective than separate subject approaches with regard to affective outcomes.

**Confusion and ambiguity in the literature**

Erb (1996) reported that middle school educators wanting to implement curriculum integration in their classrooms are confronted with persistent confusion and ambiguity rather than clarity as to what integration means and that they experience an equally persistent frustration since the confusion and ambiguity impedes implementation. In fact the literature is replete with a bewildering range of terms for curriculum integration as indicated above; along with the popular but mistaken notion that integrated forms of curriculum can be classified as a ‘continuum’ of models.

Although curriculum integration research in the USA has a rich historical legacy, the wider community of educational researchers and practitioners has routinely taken and accepted an ahistorical approach. Only a handful of contemporary curriculum theorists, notably Beane (1997 & 2004), Gehrke (1998) and Vars (1998), have acknowledged that curriculum integration consists of a dichotomy of student-centred and subject-centred approaches derived from the two broad traditions that date back to the turn of the twentieth century.

Prior to 1900 Dewey pioneered the student-centred approach in his Chicago laboratory school. Over the years since, a number of other notable American progressives built on the work of Dewey and further theorised the concept (Hopkins, 1937; Dressell, 1958; Lounsbury & Vars, 1978; Beane, 1990 & 1997). In a similar fashion the theoretical basis of subject-centred approaches can be traced to the late nineteenth century Herbartian¹ notion of the ‘correlation’ of subject areas. Contemporary exponents, however, either do not know or ignore the equally long history of subject centred education. By and large their view seems to be that subject-centred education and its variants, such as multidisciplinary curricula, are a “modern day” response to contemporary circumstances and lack historical precedent.

The two approaches are represented in contemporary practice by the student-centred integrative model (Beane, 1990) and the subject-centred multidisciplinary model (Jacobs, 1989).² All other examples and forms of curriculum integration can be represented by one or the other of these two theoretical models (Gehrke, 1998). Accordingly in the paper we use *curriculum integration* as a generic term for all forms of curricula that various exponents label or refer to as integrated: we use the term *integrative curriculum* (IC) to refer specifically to the student-centred model and the term *multidisciplinary curriculum* (MC) refers specifically to the subject-centred model.

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¹ The ‘Herbartians’ were a group of nineteenth century American educational reformers who were interested in the ideas of German philosopher, Johan Friedrich Herbart.

² Jacobs preferred to refer to the subject-centred multidisciplinary model as an ‘interdisciplinary’ curriculum however this is both historically inaccurate – as it is almost identical to a ‘multidisciplinary’ model described in the 1930s – and could lead to confusion with student-centred approaches which have also been referred to as interdisciplinary forms.
Comparison of the integrative and multidisciplinary models
Table 1 below summarises the main differences between the IC and the MC models.

Table 1: Comparison of the IC and MC models

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<td></td>
<td>Collaborative teacher-student planning</td>
<td>Planning and implementation by teams of teachers</td>
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<td></td>
<td>Holistic, site-specific</td>
<td>Sequential, not site-specific</td>
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<td>Integration carried out by the student</td>
<td>Integration carried out by the teacher</td>
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<td>Ethical and political aspects</td>
<td>Assumes all students have individual needs</td>
<td>Implies all students have identical needs</td>
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<td>Responds to the developmental needs of early adolescents</td>
<td>Indifferent to the developmental needs of early adolescents</td>
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<td>Attuned to socioeconomic, cultural and ethnic differences</td>
<td>Indifferent to socioeconomic, cultural and ethnic differences</td>
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<td>Susceptible to political pressure</td>
<td>Not susceptible to political pressure</td>
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<td>Promotes academic rigour</td>
<td>May lack academic rigour</td>
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Design characteristics of the IC Model
James Beane (1990) established the design of the IC model on understandings derived from Dewey’s work and he created a simple but elegant method to generate relevant and appropriate subject matter for middle schooling. Asking students two questions lies at the heart of the method: “What concerns (questions) do you have about yourself? What concerns (questions) do you have about your world?” (Beane, 1997:86). The students, in collaboration with each other and their teachers, investigate the concerns and questions within the bounds of an overarching theme or ‘organising centre’, which they identify or generate. Beane argued that in this way application of the IC design creates and enhances, “possibilities for personal and social integration through the organization of curriculum around significant problems and issues, collaboratively identified by educators and young people, without regard for subject-area lines” (1997:19).

According to Beane IC applications support active and interactive (constructivist and co-constructivist) pedagogy and evaluation. They are not limited by the boundaries of subjects and yet are capable of being supported, where appropriate, by the investigative and exploratory methodologies of school subjects and the disciplines of knowledge. In this way, integrative designs embrace rather than reject school subjects and the disciplines of knowledge in their most powerfully educative sense. That is,
students take the procedural and propositional knowledge and processes of the disciplines and learn them by applying them in inquiries, projects and investigations which they carry out as an integral part of their school education. In school education carried out this way, teachers in their turn require a wide repertoire of pedagogical content knowledge and strategies. The strategies range from skilled expository technique to facilitation of student inquiry and may encompass whole class activity, cooperative small group projects, guided discovery and one-to-one instruction.

The IC approach inherently is democratic because teachers share power with their students. The democratic orientation of IC is apparent in the way the approach allows student voices to be heard and heeded, and in the way that it involves collaborative teacher-student planning and implementation. Dewey (1916) explained that when young people actively engage in the subject matter of thematic units, they develop the capacity to actively participate in democratic citizenship. He urged educators, “to deepen and broaden the range of social contact and intercourse of cooperative living” so that students learn by experience and make their, “future social relations worthy and fruitful” (1936:466-467). Dewey thought that young people should be prepared for adult responsibilities, not merely to adapt to, “changes in society” but to, “have the power to shape and direct those changes” as fully participating citizens in a democracy (1897:12 cited Tanner, 1997:10).

Later on Beane’s insight was that, “(the) authentic integration of educational experiences … emerges from what young people themselves see as significant issues or problems to explore” (1993:3, emphasis added). Applications of IC therefore integrate issues of self interest with those of the common good (Beane, 2002). A consequence is that IC always is site-specific because each example is developed within the local context. Furthermore, each IC unit is developed holistically so that the subject matter of the classroom curriculum derives its meaning and relevance from all aspects of the social context.

**Design characteristics of the MC model**

The MC model uses the notion of correlation so that teachers may efficiently arrange subject matter by removing ‘overlaps’ between subjects. MC is characterised by teachers doing long-range planning from the perspective of what teachers regard as the important knowledge and competencies that students need or, which a state or national curriculum might prescribe and mandate schools to teach. The approach effectively excludes the possibility of input by students. Planning is sequential and can involve ‘mapping’ over several semesters or even years (Jacobs, 1989). MC is autocratic with respect to the power relationship between the teacher and students. The top-down approach of MC tends to disempower early adolescents because they are unable to participate in the selection of subject matter. In general MC is not site-specific, with the serious consequence that subject matter often lacks relevance to students. Dewey criticised this approach as a traditional weakness of subject-centred approaches. He stated that when irrelevant subject matter is presented to students, “in the form of a lesson to be learned as a lesson, the connecting links of need and aim are conspicuous for their absence” (1902:25).
The process of integration in the IC and MC models

In IC the process of integration is understood as a task the individual learner must accomplish (Beane, 1997). In other words: when students learn, they do their own integrating. The notion of integration at the personal level as a continuous, “reconstructing of experience” lay at the heart of Dewey’s curriculum design (1916:89). He described this process by stating that:

“The mentally active … (learner’s) mind roams far and wide. All (subject matter) is grist that comes to (their) mill … yet the mind does not merely roam abroad. It returns with what is found, and there is constant judgment to detect relations, relevancies (and) bearings on the central theme. The outcome is a continuously growing intellectual integration … within the limits set by capacity and experience this … is the process of learning” (1931:424).

To authenticate integration, Dewey insisted that students should actively experience fields of subject matter and engage in enquiry. Thus he emphasised the importance of, “learning by doing” (Dewey, 1900:120). Dewey also promoted the notion of integration at a social level by developing the idea of the classroom as a, “miniature community (or) an embryonic society” (1900:15). He discovered that student participation in a miniature society developed skills and attributes needed in wider society, for instance: working collaboratively, solving real-life problems and building self-discipline.

Dewey (1936) and Beane (1997) both emphasised that the curriculum should be personally meaningful to the learner and be of substantive value to society. Dewey repositioned the traditional notion of subject matter by defining it as the specific knowledge uniquely important to each individual within the context of their role in society. He explained that subject matter should be, “related to the vital experience of the young” (1936:470) and, “of the meanings which supply content to existing social life” (1916:226). Dewey summarised his position by stating that the curriculum should develop in a close relationship with, “(the) one great common world” (1900:91). He explained that when children live, “in a varied but concrete and active relationship to this common world,” their studies naturally integrate (p.91). Beane’s integrative design asks teachers and students collaboratively to plan³ IC according to both personal questions or concerns and social questions or concerns that are real to the students. He explained that IC unit themes often generate both ‘micro’ and ‘macro’ applications from the same subject matter. For example, a teacher and students might plan a theme called ‘Health and Disease’ connecting personal concerns about longevity with social issues such as finding cures for diseases (Beane, 1997:48).

MC in contrast does not make deliberate provision for a process of integration carried out by students. Instead the subject-centred notion of ‘integration’ is understood solely in terms of correlation and is reserved as a process carried out by teachers or curriculum writers (Jacobs, 1989). This MC notion of integration justifies a pedagogy that delivers parcels of knowledge which teachers or textbook writers pre-package and which embody teachers not students integration of knowledge. Dewey criticised the use of textbooks prior to high schooling. He explained that, “the lack of any

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3 In Australia the notion of the ‘negotiated curriculum’ (Boomer, 1982) has a following in middle schooling (Hunter & Park, 2005). This is an important first step towards an IC design.
organic connection” with what the students has already, “seen and felt and loved” makes most textbook material, “purely formal and symbolic” (1902:24-25). Dewey also criticised the process of correlation. He explained that the correlation of subject areas becomes artificial and purposeless when teachers, “resort to all sorts of devices to weave a little arithmetic into the history lesson, and the like” (1900:91).

**Ethical and political considerations**

IC is based on ‘thick’ ethical principles which reflect its student-centred focus. It assumes that that students are not all the same and expects them to have different educational needs. Beane (1990) specifically designed IC to respond to the developmental needs of early adolescents. IC is, by design, finely attuned to maturational, socioeconomic, cultural and ethnic differences, thus applications of IC are always inclusive. IC promotes the integration and understanding of knowledge at a personal level because students and teachers collaboratively plan and implement the curriculum. In contrast, MC is based on ‘thin’ ethical principles which reflect their subject-centred focus. Applications of MC are indifferent to both the developmental needs of early adolescents and the more specific needs of young people within ethnic minority or lower socio-economic status groups, because by and large they are developed for and independently of them, ostensibly because others who are wiser and more knowledgeable “know best” that which is in their best interests. A consequence is that applications of MC commonly fail many students by not accounting for individual differences in developmental maturity or ability level.

In the USA the political environment strongly has influenced the fortunes of IC and MC (Beane, 1997, 1999a & 1999b). Applications of IC have been met by political pressure from several quarters because they tend to disrupt the transmission of the knowledge and values – or ‘official knowledge’ (Apple, 1993) – of the dominant political group to classrooms. The literature of curriculum integration has shown bias against IC and classrooms have not been sufficiently resourced. Teachers of IC have been subjected to hostility from teachers with strong subject affiliations, parent groups and other stakeholders such as textbook publishers or conservative church groups. As a result, Snapp (2006) argued that it is vital for teachers who want to implement IC in their classrooms to ensure they have the whole-hearted support of their school principal and community. In contrast, applications of MC in the USA generally have escaped political pressure; probably because the model faithfully transmits official knowledge to the classroom. Despite her lack of recourse to existing theory or history, Jacobs’ (1989) work on MC rarely has been criticised in the literature. As a result, despite a range of shortcomings of MC as an appropriate curriculum design for middle schooling, it has been implemented widely in American middle schools.

Contrary to the views of many critics, IC promotes academic rigour because the collaborative planning process ensures that the subject matter of any given unit will challenge and stimulate all students of every ability level. The collaborative design of IC has the pedagogical implication that class work tends to be creative and unpredictable. Indeed, groups of students often will initiate spontaneous problem-solving episodes, projects or performances. As a result, teachers must be able to respond flexibly to the individual needs of their students. As Dewey (1900) explained, young people learn by actively and creatively ‘doing’ projects, problems and performances related to the subject matter at hand. When done well, IC creates a
rich learning environment which usually is messy and neither neat nor tidy; yet frequently results in highly productive learning outcomes.

In contrast, MC is less rigorous academically because its design fails to challenge every student and cater for all levels of ability, except perhaps in the hands of exceptional teachers who bring high motivation, passion and an enthusiasm for the subject that is larger than the subject itself. More commonly though, MC rely on a limited range of subject matter selected by teacher teams via a mapping process which has strict parameters according to subject and grade level. The pedagogical implication is that students commonly are expected to work alone on tasks which focus on content and skills. Culminating performances tend to be staged and scripted by the teacher. Essentially, if an MC unit fails to stimulate and challenge young people, then – despite the high hopes a teacher team might have held for the subject matter during the planning process – it lacks academic rigour because students will be reluctant to actively engage in the subject matter.

**Conclusion**

IC is a particularly appropriate curriculum design for middle schooling. It is highly responsive to the developmental needs of early adolescents and is inclusive of all sub-groups of students. However, the American experience suggests that attempts to implement IC in middle level schools in Australia and New Zealand may encounter points of political resistance. In contrast, MC has serious drawbacks with respect to implementation at the middle level which largely have been recognised. MC is indifferent to the developmental needs of early adolescents and marginalises the needs of some sub-groups of young people.

James Beane, perhaps the most prominent middle-years curriculum scholar and researcher since Dewey, captures the essence of the argument. He says, that if middle schools and schools with responsibility for educating young adolescents:

“Were to provide more access to more knowledge for more (early adolescent) children in a positive and nurturing climate, efforts would have to be made to emphasize collaborative learning, get rid of tracking, create heterogeneous grouping, develop (integrative curricula), involve students in curriculum planning, celebrate cultural diversity, respond to diverse learning styles, and connect school to community life” (2001:xii).

Beane’s argument and ours is predicated on the view that early adolescence is a special and distinct stage of development and education. Formal and official recognition of this fact is long overdue. Efforts are required now, and urgently, to develop and adopt forms of curricula and pedagogy markedly different from primary and secondary curriculum, learning and teaching practice based on subject based designs of the past. These efforts are no more or less than what early adolescents need and deserve, and they have needed and deserved them for a very long time. As Beane has explained, the challenge from history is:

“Not about shocking new revelations or brand new ideas. Rather it is about really good (almost common sense) ideas that were supposed to be present in good middle schools (and in good middle school practice where ever it occurs, primary to secondary) and which now ought to emerge on a larger scale … ideas that will
enhance academic achievement for all young people, engage them in
intellectually stimulating experiences, and provide a caring environment within
the school” (2001:xx).

A recent comprehensive New Zealand review conducted by Nolan, Stewart, Brown
and Beane (2002) identified specific ‘actions’ that schools which work with and teach
early adolescents might take to shift the focus of (secondary) school curricula away
from the predominant practice of subject based teaching and multidisciplinary
curricula and towards the use of integrative curricula that researchers, practitioners
and theorists in the progressive education tradition of Dewey persistently have
recommended. The actions have featured centrally in virtually all research and
accounts of exemplary practice that document highly effective educational practices
and developmentally responsive curricula and pedagogy for early adolescent
education. The actions are that schools will entertain and implement into practice the
following nine items of school and curricula practice:

1. Balanced, integrative curricula programmes focused on issues and concerns,
   real to students and real in the community, supported by subject teaching and
   other direct instruction only as needed;

2. A common core curriculum which provides students and teachers with diverse
curriculum and learning resources, and access to essential understandings,
knowledge and skills (key competencies) that teachers and students may select
and apply to carry out student and teacher initiated studies, explorations and
investigations (which are in contrast to highly prescriptive teaching with pre-
specified objectives);

3. A focus on exploration - studies and projects which permit students to explore
interests and topics of high interest within a broad integrative curriculum
framework;

4. Teaching and teacher relationships with students that are demanding yet
personable, facilitative and interactive;

5. Learning that is active and interactive, cooperative and concrete and involves
explorations, investigations and inquiry;

6. Homeroom & specialist teaching which are combined with interdisciplinary
staffing arrangements to permit teacher collaboration and cooperative planning;

7. A collaborative school culture and a shared leadership approach that support
teacher collaboration across subject boundaries and cross-curricula planning and
evaluation of learning programmes;

8. Planning, review and school development that is school-wide and inclusive; and

9. The staff and community share common understandings about goals and
directions and the school supports integrative curricula programmes that engage
students in community based learning and projects, which the community
supports.
References


