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ABSTRACT

In the traditional educational model, the accumulation of information is more important than the understanding of conceptual relationships between disciplines. The process of traditional education is to assure that students know the rudiments of conventional wisdom. Interdisciplinary education, on the other hand, is relational. Ideas, their validity, and their relationship to the arts, society, and the human condition are the central issues of the interdisciplinary model. The goal and process of the interdisciplinary method is to interpret primary sources with regard to their expressive intent and contextual meaning. Essential elements of the interdisciplinary method include: (1) a chronological approach; (2) the use of primary sources; and (3) an instructor committed to exploring other disciplines with the aim of integrating and presenting substantiated interpretations. Student outcomes, particularly in the area of critical thinking, are in many ways parallel to the methodology of interdisciplinary education. Unfortunately, even at community colleges that are committed to the concept of interdisciplinary outcomes-based education, success in reaching general education problems are hindered by such problems as the academic mentality of exclusiveness and territoriality and faculty members' inability to think critically and globally about their own fields. Proper implementation of outcomes-based, interdisciplinary education could improve, and perhaps radically change the attitudes and skills of students. The continuous questioning and reevaluation of traditional information is precisely analogous to a thoughtful and engaged lifestyle, the essence of lifelong learning. Its aim is directed toward a personal understanding of the world that brings about greater individual autonomy, fulfillment, and effectiveness. (KP)

# How to Achieve Outcomes in Interdisciplinary Education Based on a Valid Methodology Integrating Art, Music, Philosophy, Science, History and Literature.

John Scoville



Paper presented at the Annual Conference of the Community College General Education Association (13th, Albany, NY, May 1994)

# How to Achieve Outcomes in Interdisciplinary Education Based on a Valid Methodology Integrating Art, Music, Philosophy, Science, History, and Literature

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Since this is a general education conference, I wish to begin by making some preliminary remarks about the difference between Traditional General Education and Interdisciplinary General Education. I first wish to extablish that these two educational concepts reflect on the one hand a scientifically based conception of education and on the other a conceptual bias towards the humanities. However, the essential goal behind both concepts is in many ways coincident. They both purport to provide a broad based educational experience that will enable the student to enter into more advanced phases of college study, to provide knowledge and conceptual tools useful not only for college life but also for later productive work and life in general.

Although both methods aim at ultimate goals that are in many ways alike, the manner in which these goals are achieved is, of course, radically different. In its traditional form, students taking general education classes are directed through requirements to take courses from a variety of what are seen to be more or less discrete disciplines. In theory at least, each discipline is regarded as a body of knowledge separated from each other by subject, methodology, and means of expression. Students are given instructors who are, for the most part, specialists in a given discipline. Often these instructors are themselves highly specialized within their field. In this model the general education curriculum reflects a collegiate organization aimed at producing the scholar specialist who embodies the ultimate product of such an institution. This design tacitly assumes that the goal of a lower division undergraduate is ultimately a Ph.D., that the accumulation of information, at least at the undergraduate level, is more important than the understanding of conceptual relationships between and within disciplines, and that the process of education is to assure that students know the rudiments of conventional wisdom.

Interdisciplinary education, on the other hand, is by definition relational. Its as is toward the understanding of concepts. The acquisition of information is certainly not neglected but it is only the raw material from which interpretations are made. Students engaged in the interdisciplinary educational process are presented material in ways that ask them to analyze information and reach reasonable and substantiated conclusions. Such a system if carried on to advanced collegiate levels would aim at producing the critical theorist rather than the scholar. This method of education stems, in short, from the intellectual rather than scholarly tradition. It aims not at specialization but generalization. The intellectual tradition has typically been the realm of artists, musicians, and writers. The central thrust with such a curriculum is not a stress upon descriptive information but the content and relationship of ideas. Ideas, their validity, and their relationship to the arts, society, and the human condition are the central issues of the interdisciplinary model.

The concept of informational purity is another conceptual distinction that separates traditional from interdisciplinary general education. The idea of "pure science" is just such a conception. This term suggests the process of isolation and refinement. The concept of scientific purity stems in part from the descriptive nature of scientific information and hence an association with objectivity is a characteristic of scientific thought. This objective way of thinking, of course, is a manifestation of scientific quantification and mathematical modeling that has become a standard to which many other disciplines aspire but never fully achieve. With this mode of thinking there is an implication that knowledge so derived is more useful and applicable. The humanities and the arts can rarely offer a numeric solution to their problems. Unlike the sciences, the fine arts in particular can seldom point to a clearly practical usefulness from knowing them.

Thus the traditional educational approach, much because of this concept of purity and applicability, has relegated the arts to a secondary place within the curriculum. The resulting situation has led to the marginalizing and trivializing of the arts because it is difficult to see the practicality of the arts and difficult to assess them with a clearly objective method. It has also led to a general ignorance and misunderstanding of the arts by a large segment of academics. A general suspicion and uneasiness resides within many college professors as to the place and merits of the arts in college education. On the other hand, there are colleagues that assert that the arts have an important and prominent place in the educational process and should be used to develop the "affective domain" of student experience. I, however, strongly disagree with both. The former argues from ignorance while the latter argues from a distorted and myopic view of the arts in the general education framework.

Since I have been trained in the fine arts, since there seems to be the greatest confusion concerning the place of the arts in the general education curriculum, and since I have had the problem of integrating the arts into an interdisciplinary humanities program, it seems to me that it is appropriate to begin discussing the nature of the this topic from the vantage of the arts and humanities.

The disciplines of philosophy, history, literature, music, and visual art constitute what is generally considered the main areas of the humanities and arts disciplines. These disciplines have a common thread that links them into a single purpose. They all comment, in one way or another, directly or indirectly, systematically or intuitively, upon human existence. So at least in this aspect they comprise a single discipline. Any inquiry into human existence that leads to significant conclusions should maintain a logical methodology that leads to interpretations stressing value, usefulness, and meaning. On the other hand, the goal of the sciences is the modeling of nature not human values. The purpose of science is to obtain the most accurate description of natural processes by the most objective means.

Yet in spite of this fundamental difference between the objectives of the sciences and the arts, an attempt at using scientific objectives and methods has been established as a general standard for discussing the arts. Consider the relatively new discipline of musicology. Until recent years the methodology of isolation and description, i.e., scientific like, has been overwhelmingly

dominant in this discipline. Hence, what was, and for the most part is, considered the standard approach for this discipline depends upon the rather restricted discussion of the great musicians in history and the works they produced. Style genealogies are discussed with little reference to social context. Such a method tacitly suggests that style developments occur almost exclusively through some set of internal artistic laws. Such a stance is presumably more scientific, factual, and consequently more scholarly.

To be more specific regarding this scholarly presentation, let me point to Donald Grout and his famous music history survey **A History of Western Music**. Grout uses some twenty-three pages to discuss early church music and Gregorian chant. He speaks of important figures in the development of this music, its performance practice, the development of musical notation, and devotes at least half of this space to a description of Gregorian chant forms and their place in the two principal liturgical classes of the *Office* and the *Mass*. His presentation is remarkably thorough while being very concise. This book reads dictionary like. It reverberates with Grout's descriptive and definitive authority and when one finishes reading these twenty-three pages, one has read all the basic information for defining what early church music is, its various formal characteristics, and its functions in the church liturgy.

What is significantly different between Grout's scholarly approach and the interdisciplinary approach is that the interdisciplinary approach stresses an explanation as to what Gregorian chant is intended to express and why. Classification of musical forms and the listing of places where music is used in the liturgy is secondary to an explanation as to how Gregorian chant creates a sonic environment appropriate to the church's theological aims. Therefore any description of Gregorian chant, from the interdisciplinary point of view, would center around how the style of the music i.e, what is sonically communicated, relates to what it is that is supposed to be expressed. In effect, an example of chant can be looked upon as a primary source much the same as a tract from St. Augustine. Thus an example of chant becomes a vehicle that can lead the student to an understanding of the central belief system of the Medieval world. It does not conceptually stand alone but is only significant as part of an organic whole.

In his text Grout gives a useful definition of the characteristic style elements of chant: "...Gregorian Chant is the official liturgical music of the services of the Roman Catholic Church; it consists of single-line melody sung to Latin words by unaccompanied men's voices, in a flexible rhythm articulated by means other than regular accentuation, in a scale system different from our major minor; and it has an impersonal, objective, otherworldly quality in which sensuous beauty and emotional appeal are largely subordinate to expression of the religious content of the text."[1] He then moves on to several pages of classifying types of chants according to their structure and place within the liturgy. Much of this information would be useless to a general education student as well as to a music major not specifically majoring in church music.

The goal and process of the interdisciplinary method is not to classify but to interpret primary sources in regard to their expressive intent and to relate this intent to a larger contextual meaning.

Chant is nonmetrical, that is as Grout points out, not having regular accents. This characteristic has significant virtues from the point of view of the church. Many pagan mystery and rural fertility cults of the time often used dance and hence regularly accented music as part of their rituals. Chant, on the other hand, denies the visceral sensations that dance and music of the dance can evoke. Consider the American Spiritual as a wholely different musical expression of the divine. Chant because of its musical configuration naturally emphasizes the word or spiritual meaning conveyed in the text. It indirectly expresses the denial of bodily pleasure and the relationship of this pleasure to sin so much talked about by Paul and Augustine. It presents an austere and otherworldly musical image of God exactly opposite to the visceral and sensual excitement reflected in pagan dance and instrumental music. Chant is therefore a musical analogue to the teachings of Paul and Augustine and a rejection of Roman religion.

Only male voices are used. Thus another suggestion of purity with perhaps an oblique reference to the place of women and their relationship to original sin that is so emphatically stated by Paul. The vocal line is unencumbered by harmonic devices or instrumental doubling. The melody moves in stepwise fashion suggesting a clarity and thus purity of the musical line. The vocal line extends to no extreme registers, there is not abrupt dynamic or melodic changes thereby minimizing any sense of tension or unpredictability. This music is designed to produce within the listener a strong sense of calmness and tranquility mixed with reverence and formality. It suggests through its musical configuration an order of existence removed from the clutter of physical world.

An unheard layer of musical expresssion is the medieval philosophical concept of the universal harmony of the spheres. The chant is an earthly metaphor for the silent harmony of these spheres, a speculum or mirror of the divine order and harmony of creation. To understand this concept and its implications was to mark an educated individual in the medieval world. Music as part of the quadrivium consisting of astronomy, arithmetic, geometry, and music, was considered an essential part of medieval education.

At this point in an interdisciplinary examination of medieval church music, the next step might be to examine the structures in which chants were performed, i.e., a church, and more specifically, for our purpose, an urban church. The church was not only generally the most impressive building visually in the urban environment, it literally defined the space of the town as well as sonically dominated the area through the cyclic sounding of the church bells. When church a church was entered one literally entered a different world, a world that was designed to express a social, political, and religious order of God's universe.

The edifice of the church and the impressive pomp of the mass was a continuous reminder to the people of this era of not only the spiritual authority but temporal power of the church. The churches themselves through their sculptural or painting programs were mute declarations of the spiritual hierarchy and its reflection in the social order on earth. For example, the Byzantine church St. Apollinare constructed in Italy in 549, some fifty years before the codification of Gregorian chant under Gregory the Great. The Byzantine Empire had a strong presence in Italy in the 6th century and in many ways the Byzantine Empire would be a strong cultural influence on the west for another five hundred years. (see

ART THROUGH THE AGES, ninth edition for pp. 276-77 for pictorial examples of Sant' Apollinare in Classe)

The entire apse portion is an expression of the divinely ordered universe. The apse is the scene of the central ritual of the Christian church the mass, i.e., the magical reenactment of the last supper. The entire apse section is rendered in mosaics. This choice of materials displays a conscious rejection of the weighty naturalistic sculpture of the Greco-Roman world. Mosaics produce a dematerialized effect through their reflection of light. Such a brilliant glittering effect suggests metaphorically the gemlike preciousness of spiritual existence. This sense of dematerialization is enhanced by the flat rendering of the space and figures. Like the chant, there is a conscious turning away from the materal implications of beauty. The observer-listener is led to a profound acceptance of a universal blissful order beyond the hectic clutter of physical sensation and pleasure. The static flat hieratic figures suggest a frozen absolute world order based on an unchanging spiritual, and by implication, temporal, authority.

This order begins with saints seen rendered in niches between windows around the altar. St. Apollinare is seen as the central figure in the mystic garden of spiritual transformation. His arms are apart in the orant or praying figure pose. His image suggest his acceptance and subjugation to will of God. It is an image oposite to the self assured and independent athletic nudes of Greco-Roman world. The instructor might take a side trip here relating how in order to appeal to masses of new converts local gods were often made saints. Such a mixing of the pagan and christian can be seen in how the yearly date for Easter is determined. Easter Sunday is the first Sunday after the first full moon after the vernal equinox carrying with it the obvious associations with resurrection and rebirth. The word Easter itself being derived from the name of an Angel fertility goddess called Eastra; hence the imagery of rabbits and eggs during the Easter season. As we continue to ascend we finally reach the image of Christ and the hand of God. Along with the symbols of the four evangelists.

The Byzantine monarchs as well as the Western monarchs saw in Christianity's appeal to universality yet exclusiveness of belief, a vehicle of social unification. Therefore it is not surprising to see in the very apse of St. Vitale the image of Justinian and Theodora as benefactors of the church. Thus we have the image of the temporal authority thoroughly validated and mixed with religious authority. The style for rendering the Emperor is precisely the same as for Saints. The piety and spirituality of Justinian is clearly portrayed as well as the suggestion that his authority is legitimately God given. (see ART THROUGH THE AGES, ninth edition for p. 278 for pictorial examples of St. Vitale)

From such a presentation, students should now have a sense of the sonic and visual world order that is expressed in these documents. They should also come away with a set of terms and vocabulary useful in reading about and discussing this material. They should have an idea how these documents were designed to convey and convince the society of this era of the rightness, power, and grandeur of the established social system. Is the expressive intent of these examples really much different than that produced by the visual and sonic information

provided by commercial television today? Are they not both reflections and arguments for an established value system?

From this official and centralized belief system as sspecifically expressed in the arts, the interdisciplinary instructor can relate the Christian social and heroic ideal as expressed in later documents such as the Chanson de Geste, Song of Roland, or amplify the students understanding of the general character of the early medieval world through discussions of the writings of Gregory of Tours. The order in which primary source documents are used is, for the most part, irrelevant as long as it is chronological and the instructor leads the students through a consistent and substantiated interpretation of the era based on internal documentary evidence and other relevant sources. By using the interdisciplinary method, each examination of a document that expresses an aspect of a given society amplifies the whole as mirrors appear to amplify a candle. It matters little what humanities or arts discipline one is emphasizing in the classroom. Subject development in this interdisciplinary process can come from any direction. Clearly, the same methodology can be used to analyze philosophical, historical, or literary source documents. This method seeks to explain how and why individuals or groups within a socio-economic context express various ideological viewpoints and to examine whether these viewpoints are in agreement or discord with a dominant social belief system. To use a deterministic model, the document is the effect. The social context is the cause of this effect. To understand the reasons for a given type of expression one must explore the cause, and in seeking the cause one is inevitably led to the complex of ideologies that constitutes a society.

What is hoped by using this methodology is that students will see how social values and expressions of social values are shaped and communicated, and how this understanding can lead, in a very practical sense, to an understanding of both the past and its significance in today's world. It, in short, provides not only the fundamental tools of a scholar but the tools of a thoughtful, informed, and productive citizen. What else is general education about?

Here then is a summary of the essential elements of the interdisciplinary method as thus far presented:

ONE: Any interdisciplinary program that professes to interrelate disciplines MUST treat the various areas of study chronologically. It is through an understanding of historical context that a conceptual cohesion between disciplines can be derived. Thematic treatments tend to obscure the reasons for the development of style and subjects of expression. An historical analysis leading to substantiated interpretations as to what, why, and how certain ideas are being expressed in art, music, literature, philosophy, and politics in a given era provides a consistent and logically based framework for inquiry.

TWO: Central to this method is the use of primary sources. Such an approach is not different from the concept behind the University of Chicago's Great Books program but widens this concept to include musical and artistic documents.

THREE: This approach requires that the instructor be committed to exploring other disciplines with the aim of integrating and presenting substantiated interpretations. This form of presentation is decidedly different than the

objective stance--where the instructor, at least in appearance, is presenting a balanced view of information by not formulating an interpretation.

To this point we have examined the interdisciplinary approach in the humanities, but for completeness I feel it necessary to now devote some words to the 'hard' sciences. The business of educating majors in the hard sciences requires, of course, that students understand principles of scientific thought in theory and application. This type of training is, in a sense, thematic not historical. Typically, student in physics classes tend to learn about inertia, gravity, magnetism, and electricity as themes that have a purity of universal application. It certainly does not mean that physics or other hard sciences can not be taught historically. The video series and texts developed by Richard Olenick, Tom Apostol, and David Goodstein The Mechanical Universe, is an example of a beginning physics course taught in large part through an historical perspective.

The interdisciplinary approach for the science major can be implemented by widening the educational process through questions of human concern similar to the issues addressed in the humanities. What are the social and philosophical implications of scientific thought? Who or what groups have control of the scientific enterprise, i.e., who finances scientific research and who gets the major benefit of the research? What is the scientist's social responsibility if any? It might be argued that this could best be addressed in some humanities disciplines such as philosophy, but I argue that sloughing it off to another discipline negates the essence of the interdisciplinary method. How can we have expectations that students will be well rounded and responsible when instructors are unwilling or incapable of providing through their own example the goal of interdisciplinary education? How is social awareness and responsibility not a part of science and part of the basic obligations of a scientist? Indeed, how is this awareness not a part of any discipline?

Let us turn now to the question of outcome based education and examine the relationship of outcome based education with that of the interdisciplinary approach. At my institution, Columbus State Community College, we have been, for over a year, working to define outcomes for outcome based education.

The Arts and Science Division has defined seven outcomes that students should achieve upon finishing our curriculum. Each area in the Arts and Sciences Division was to designate which outcomes would be achieved appropriate to that area.

At the head of the outcomes list is critical thinking. To my mind this outcome is the most significant and in many ways achieves the other outcomes by way of the critical thinking process.

I found myself on an ad hoc committee that was to define the nature and process of critical thinking. This committee agreed upon the general definition (See Figure 1). Then each member was to develop a set of student performance and evaluation criteria for each critical thinking outcome (See Figure 1). What is presented here is my contribution to this committee.

Figure 1

*DEFINITION*

*Critical Thinking is a logical process by which informed interpretations and conclusions are reached by using different cognitive skills and techniques such as introspection, comparing and contrasting, information searches, evaluating from several perspectives, analysis, synthesis, and integration.*

*OUTCOME ONE*

*Identify personal assumptions*

*STUDENT PERFORMANCE - OUTCOME ONE*

*By using introspective techniques, the student will identify and express the initial limits of their informed opinion on a given topic as well as, when appropriate, the various cultural, social, and political biases they may carry when addressing an issue.*

*EVALUATION STRATEGY - OUTCOME ONE*

*Students will state and reasonably justify their assertions in any of a number of ways. (Mathematical proofs, written or oral expressions of personal perceptions and reasoning, "Authoritative" views, etc.)*

*OUTCOME TWO*

*Obtain information from a variety of sources*

*STUDENT PERFORMANCE - OUTCOME TWO*

*Students will examine and present credible and authoritative sources on a given issue and/or provide valid experimental evidence.*

*EVALUATION STRATEGY - OUTCOME TWO*

*Students will state and in certain instances justify their choice of sources and/or will provide documentation for experimental procedures through written, visual, musical, or oral presentation.*

*OUTCOME THREE*

*Evaluate issues from a variety of perspectives*

*STUDENT PERFORMANCE - OUTCOME THREE*

*Students will furnish sources that demonstrate completeness of topic exposition by providing, when able, a variety of perspectives from credible and authoritative sources and/or differing or similar experimental data or data interpretations.*

*EVALUATION STRATEGY - OUTCOME THREE*

*Students will present sources through written, visual, musical, or oral presentation*

*OUTCOME FOUR*

*Analyze information*

*STUDENT PERFORMANCE - OUTCOME FOUR*

*Students will analyze information appropriate to a given inquiry: mathematical, literary and spoken, visual (artistic), aural (musical), historical, and/or scientific. Students will demonstrate analytical skills by recognizing literary and rhetorical devices and structure, musical and artistic organization, mathematical reasoning, and/or scientific description.*

*EVALUATION STRATEGY- OUTCOME FOUR*

*Students will present evidence of their analysis through written or oral presentation.*

*OUTCOME FIVE*

*Draw Inferences*

*STUDENT PERFORMANCE - OUTCOME FIVE*

*Students will develop logical inferences based on a sound analysis of documentary evidence (literary, musical, visual, historical, scientific, or mathematical) that interprets the document's content, general bias, mode of reasoning, manipulation of data, accuracy, and/or artistic intent.*

*EVALUATION STRATEGY - OUTCOME FIVE*

*Students will defend their inferences through written, oral, and/or visual presentation.*

*OUTCOME SIX*

*Compare and Contrast Information*

*STUDENT PERFORMANCE - OUTCOME SIX*

*Students will compare and contrast various documentations as to their respective content and means of expression.*

*EVALUATION STRATEGY - OUTCOME SIX*

*OUTCOME SEVEN*

*Synthesize, integrate, and connect information*

*STUDENT PERFORMANCE - OUTCOME SEVEN*

*Students will explain how specific instances of data or formulas underlie greater scientific or mathematical generalizations, and/or how internal evidence from specific documents relate to larger or analogous historical, social, political, or scientific issues.*

*OUTCOME EIGHT*

*Draw Conclusions*

*STUDENT PERFORMANCE - OUTCOME EIGHT*

*Students will make general judgements as to the validity, truth, meaning, and/or significance of a given document, point of view, or data.*

It became apparent that the definition of critical thinking, as given here, and the various outcomes that are associated with it, encapsulates and describes the process of primary source interpretation. I started with the basic premise that the logical interpretation of information was the core to critical thinking. The type of information and object of inquiry may vary but the underlying process leading to a substantiated conclusion was in essence the same. From this list, the four areas that I consider the core of this critical thinking process are Analyze Information, Draw Inferences, Synthesize and Integrate Information, and Draw Conclusions.

Regarding the analysis of information, it seemed necessary to look upon information itself as intrinsically uniform and undifferentiated. Information only becomes significant or meaningful through perception, and hence the interpretation of it. By looking at information in this way, we move away from categorizing information as discrete types related to certain disciplines and methods, and move toward a concept of information that is an organic whole. In this way one can think of information as cross disciplinary. For instance, the description of a musical sound might be in the form of wave equations, or actual sound translated into a digital or analogue format, or notational representation of pitch and time, or one can indirectly described it through pictures or words. The type of information used is dependent upon the nature of a given inquiry and the availability of information. It is my feeling that students should be at home with the entire spectrum of information possibilities. The ability to synthesize, integrate, and connect information, to my mind, overlaps with *Draw Inferences* because both are the next stage in discovering meaning and significance in information. Finally, to make substantiated conclusions about information requires that the previous stages of critical thinking be consistently and accurately applied.

It is evident, I think, that student outcomes particularly in the area of critical thinking are in many ways parallel to the interdisciplinary methodology outlined above. Both aim at the development of logically substantiated conclusions. The instructor in this context is required to develop his or her arguments and interpretations as a comprehensive model that provides a framework from which students will discuss primary sources. The students are then evaluated according to their understanding and ability to analyze information and reach logically substantiated conclusions from available information. This obviously does not preclude students from reaching conclusions, even valid ones, that are divergent from the instructor's. Such an environment nourishes a constant dialogue between students, instructors, and sources.

I would hope at this point that I have, at least in some small way, convinced you that outcome based education and the interdisciplinary method have much to offer the general education curriculum. Now I wish to confess that at my institution although we are committed to interdisciplinary outcomes based education, I feel that we have achieved only marginal success with this program and are not likely in the future to achieve much more. Moreover, I sense that nationally this educational philosophy is not likely to have much success. I cannot point to massive studies that substantiate this assertion. I can only refer to an admittedly narrow vantage of my personal experience. I therefore wish to share with you a few of the many experiences I have had that led me to this conclusion. As Descartes says in his Discourse on Method, "I will endeavor to describe the paths I have followed and to delineate my life as in a picture, in order that each one may be able to judge of them for himself...".

I have now taught at Columbus State for six years. For the eight years preceding this, I worked for a language arts publisher and gradually during this time developed a string of part-time teaching positions. I regularly taught 20 to 25 hrs of lecture class a week. Art and music taught either singly or together was the substance of these classes.

When I accepted a teaching position at Columbus State I came to realize very quickly that, although I had a firm grounding in the arts, I would need, in order to teach the core courses, a much more extensive command of general history and philosophy. In my naive way, I thought it exciting and thoroughly engaging that my job required me to explore these areas. For as I became more familiar with general history and philosophy, my sense of the arts grew broader, richer and to my mind more complete. All of which enhanced my understanding of the interdisciplinary approach and provided me with material for two series of lectures on the Conceptual Roots of 19th and 20th Century Music and Art.

Early on in my teaching career, I received many indications that were at the time mildly disturbing but latter proved indicative of what I have come to think of as a profound set of blemishes in the educational system. The earliest incident that comes to mind occurred after a department meeting about a year after I began teaching. A small group of us were making some comments about the events of the first world war. A colleague who taught modern languages was listening to our conversation. This person had a Ph.D. in modern French literature from a major university. At the end of our conversation this person asked the ingenuous question, "Who won the first world war?". I hasten to point out that this was not said in jest. This person was oblivious to the implications of such a remark. Let me emphasize, I'm not criticizing the individual, but rather I am questioning how a system can produce persons with advanced degrees that apparently have no understanding of the historical period in which their specialty area lies or, they seemingly have no grasp of wider issues associated with their specialty area.

The concept of academic specialty is not what I am criticizing. It is rather a certain academic mentality of exclusiveness and territorialness that I look upon as a disservice to students and the academic community as awhole. Finding meaning, significance, and usefulness in information is, for me, equally as important as the pursuit of information. It is the search for meaning and significance that, as I mentioned earlier, breaks the bounds of disciplines and

gives relevance to interdisciplinary education as well as general education. It seems to me that a sort of academic conspicuous consumption based on specialty has arisen. The danger of this situation is that it can lead recipients of such training into mental attitudes that restrict their ability and willingness to integrate, synthesize, and connect information into wider patterns of human thought. My complaint is not only directed toward specialty; I wish to point out that programs that produce generalist advanced degree recipients are also to my mind suspect.

Because the department I'm in has been growing, we have had many occasions, over the last few years, to form search committees and have had the attendant interviews that go along with a search. One interview remains engraved in my memory to such an extent that I feel compelled to relate it here. The person interviewed on this occasion possessed a Ph.D. in humanities, an interdisciplinary degree. The content of her dissertation consisted of a comparison between the modes of expression between a VanGogh painting and a poem by Mallarme. I directed this question to the applicant, "If I were to accept the methodology and general premises for this comparison, what would I know more about regarding these works and their mode of expression by reading your dissertation?". The answer after some thought was, "It's just another way of looking at these works". Here then was a critical work that reached no critical conclusion. It lacked, from what I could gather, at least one essential element in the critical thinking process that of drawing conclusions. This did not seem to disturb the committee one wit so I went on. I asked about the teaching of art and the applicant's response was that she loved art and teaching. The applicant then related how on a certain occasion when the works of Picasso were being presented, the applicant was confronted by a student. You know the type -- "My three year old sister could do that."-- "Why is that art?". The applicant indicated that this provoked her thinking and so by the next class she had gathered all the slide examples of Picasso's works that she could find. The point of this next lecture was to demonstrate how much labor Picasso expended to arrive at cubist abstraction. Therefore the applicant's justification for cubism was the amount of work it took to achieve the cubist style. How many times have you had a student try to justify a poor grade by saying, "but I worked so hard"? The merit of cubism must be judged on its expressive and artistic worthiness, not on some irrelevant criterion. This manner of thinking led me to believe that this person had seldom, if ever, been asked to critically justify her assertions. I was, however, more troubled by my colleagues. Most seemed to have accepted these statements as reasonable and valid.

Recently, two of the four full-time instructors teaching American Civilization II, all of whom were American historians except myself, decided that they wanted to produce their own primary source reader. They felt the reader we were using inadequate and incomplete, precisely why I could never ascertain. This new reader was to be definitive and comprehensive. I voiced, in a series of memos, concern that if we were to produce our own reader we should carefully choose, and where necessary, edit our choices along agreed upon criteria for selection and editing. These primary sources were, after all, the center piece of the course. No criteria for judgement was used however. We all simply submitted primary source documents that each thought should be included in the reader and that was that. The final decision on the readings took a little over an hour, this being the only time the four of us met together. I tried to discover how my colleagues

conceptually structured the course and how and why they chose certain primary source documents as important, and how these documents should be placed in the sequence of the course. I also wished to discuss how these documents could be related, if at all, to the arts because the arts are presented in our core courses in an auditorium with all sections and instructors present. My questions, however, were left unanswered. The meeting from my point of view was decidedly unsatisfactory. After a couple of months, through some mysterious alchemy, the reader appeared with the two names of the above mentioned faculty printed on the cover as coeditors.

Upon looking at the finished product I was dumbfounded. Not only did the primary sources seem to have no conceptual consistency but all other faults paled in relation to one glaring omission. There was no primary sources by blacks other than selections by W. E. B. DuBois and Booker T. Washington both sources written near the turn of the century: no Martin Luther King, no Malcom X, no Langston Hughes, no Richard Wright, NO OTHERS. Students are now being asked to spend ten more dollars for a book that was far less useful than its predecessor. I am at a loss as to explain how two trained modern American historians could present this volume as a defintive primary source that all instructors teaching American Civilization II are to use.

I don't wish to give the impression that I regard the people I have mentioned as stupid. Far from it. I am fully aware we mortals cannot individually know everything, that there are gaps in all of our individually acquired knowledge and that most of us on occasion have made some shockingly illogical statements. I plead guilty to having,much too frequently, exhibited these foibles myself. My point in presenting these experiences is not to ridicule colleagues but to examine what I feel to be profound systemic impediments to outcomes based, interdisciplinary education. I do not feel these impedements are in individuals but resident in the very system of higher education as it now stands. I wish that such incidents as I have just describe could only be found at my institution, but I know from colleagues at other colleges and universities this is not so.

We are, I think, faced with a simple question, how is it possible to ask students to think critically and globally when many instructors are seemingly incapable of or simply refuse to think in this manner? Outcomes based education asks institutions to delineate categories of knowledge that students should know and to demonstrate how faculty will facilitate students achieving this knowledge. The faculty are thus as accountable as the students. The interdisciplinary method is an instructional mosaic where various instructors, through necessity, must interact directly or indirectly through the exposition of course content. Instructors in this situation must formulate interpretations that synthesize, integrate and connect information. There is no other reason to combine content within a given course if not for this end. The interdisciplinary approach can only work if faculty and students are engaged in a continuous critical dialogue. If professors disagree with one another then there should be discussion or debate, preferably in front of a class. What better way to instruct students in critical thinking? Because I lecture to my peers as well as students, I am, and should be held, accountable for what I say. I must be willing and able to present comprehensive and accurate information that lead to plausible interpretations. I am accountable to my peers and my students just as they are

accountable to me. I do not see this as impinging upon my academic freedom; it is instead clearly articulating my academic responsibility.

The continuous questioning and reevaluation of traditional information in the light of new information is precisely analogous to a thoughtful and engaged lifestyle. This is the essence of life long learning, a concept of learning that is intimately related to the process of life itself. Its aim is directed toward a personal understanding of the world that brings about greater individual autonomy, fulfillment, and effectiveness. I do not wish to jettison specialty but simply wish to expand the undergraduate curriculum to include global critical thinking in a way that is practical for citizens in a democratic society. In a world such as ours specialists must exist and it is those engaged in interdisciplinary probings that often reap the hard and meticulous work of these specialists. But an educational system directed toward information accumulation and superficial academic skills, such as we have, has not produced individuals that appear to be responsible thoughtful citizens. Voting participation is a simple indication of this. It has always been remarkable to me how much curiosity young children have and equally remarkable how little curiosity so many of my students appear to possess. What have we taught children in our schools from the years of their infancy to their adult life? I sense something intrinsically wrong with a system of education that on the whole seems to produce products of intellectual conformity and acceptance. What are primary and secondary teachers but products of higher education? Who is the corporate and political leadership of this country? Almost without exception all are products of the higher educational system. And most of all who are our college professors who teach all of the rest? If the actual outcome of General Education is to produce thoughtful, questioning, and globally aware human beings, I see little evidence of success.

I cannot categorically say outcomes based, interdisciplinary education will solve these problems, but I do think proper implementation of these concepts could improve, and perhaps radically change the attitudes and skills of students generally. And this in the long run may have a positive effect on the general public's perceptions as to the usefulness and significance of education. America is on decline. It appears to me that the American Educational system is declining with it. The educational system needs funding, that is evident, but it also must have direction. An effective educational system for the 21st century cannot be a rote system. I have pointed to what I see as systemically wrong but I cannot begin to tell you how it can be universally corrected. I can, however, assure you that what we as educators institute today as the direction and intent of our educational system will be realized as the social fact of the 21st century.

1. Grout Donald Jay, A History of Western Music, 1964;
W. W. Norton.