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Abstract

In this paper it is argued that the concept of integrity in a person, or an activity, or an institution, is intimately connected with notions of wholeness and completeness, and that the creation of integrity consists in developing an awareness of the possibility of greater wholeness and completeness, and in creating environments in which they may occur. In a manner analogous to ethical integrity, integrity in inquiry, knowledge learning and teaching is seen as arising from a preparedness to submit oneself to a larger intellectual whole, in which one might say that individual preference is secondary to a “transcending state of affairs”. Some suggestions are made to help towards progressing the ideals of integrity in teaching and learning, with some discussion in relation to specific disciplines.

The Concept of Integrity in Teaching and Learning

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Abstract

In this paper it is argued that the concept of integrity in a person, or an activity, or an institution, is intimately connected with notions of wholeness and completeness, and that the creation of integrity consists in developing an awareness of the possibility of greater wholeness and completeness, and in creating environments in which they may occur. In a manner analogous to ethical integrity, integrity in inquiry, knowledge learning and teaching is seen as arising from a preparedness to submit oneself to a larger intellectual whole, in which one might say that individual preference is secondary to a “transcending state of affairs”. Some suggestions are made to help towards progressing the ideals of integrity in teaching and learning, with some discussion in relation to specific disciplines.

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Introduction: The Word Integrity

There are two meanings of the word *integrity* which concern us. The older was used by Sir Thomas More in 1633, when he used the word to signify *wholeness* or *completeness*. The other meaning is nearly as old, and is that of *soundness of moral principle* and, specifically, uprightness, honesty or sincerity. However, the most common meaning of the word today seems to me to be the one emphasising moral principle.

The two meanings of the word *integrity* interact and shed light each on the other. In fact, I go further and suggest that each of the two meanings of the word is essential for comprehending the deeper significance in the other. For, *integrity* has a broader connotation than denoting merely particular qualities such as honesty or sincerity, and this connotation derives from its suggestion of the idea that such qualities in a person derive from the wholeness or completeness of the person. To the extent that *integrity* means honesty, for example, it seems to mean it as a general state of the person, rather than as referring simply to a person who does not tell lies. On the other hand, if we think of wholeness and completeness in a detached and purely descriptive way, as relating to a material object (say), then *integrity* may have little or no moral connotation, but as soon as we use it in relation to a person, it assumes a moral quality. In summary, if *integrity* is taken to mean honesty or sincerity, or some other such qualities in a person, we feel compelled immediately to consider that quality in relation to a larger whole, and to feel that those specific qualities derive from a larger and more all-embracing quality---the wholeness and completeness of the person.

Now, *integrity* may have a moral and ethical connotation not only in relation to persons. So, for example, if we turn to the concept of academic integrity in a university context, the issues that arise certainly include whether certain individuals are honest, or whether students cheat or plagiarise, but also there are broader issues, which include integrity in intellectual enquiry, integrity in teaching, and integrity in the way in which The University presents itself to the world.

Integrity in Inquiry and Knowledge

At both the student and staff level, intellectual enquiry is the fundamental task of The University. Here, the term *intellectual enquiry* is to be taken in a broad sense---it does not refer merely to research (although it certainly includes it), it refers also to all of that type of teaching which seeks to create an atmosphere of enquiry in student learning and in the minds of students. This is the type of learning which continues to be, ideally, a characteristic of universities.

Now the meaning of integrity as “moral” or “ethical” finds a place in a serious notion of intellectual enquiry, arising from the fact that the enquirer should be prepared to accept the results of the enquiry regardless of his or her own personal interest in the outcome, submitting himself or herself to a larger whole and a wider judgment. For, just as ethical behaviour may require us to override our personal convenience and submit ourselves to a wider ethical reality, so an aim to enquire or attain knowledge may require us to submit ourselves to a wider *intellectual* reality, and integrity in the ethical sense may arise by submitting ourselves to this reality.

This view requires one to hold that an enquiry and actual knowledge are something more than a purely personal preference or choice of convenience, and it requires one to hold that knowledge and judgment may be more than mere manifestations of manipulation or power. In other words, there is a “transcending state of affairs” which one should or may have to accept. Here, note that I use the word *transcending*, rather than *transcendent* because, for the purposes of this paper, I am trying to leave the notion as suggestive rather than precise (despite its importance, in philosophical terms). The view, common in postmodernism but present much earlier in Marxism, that ideas and knowledge, to the extent that they claim to be more than an individual or relativist preference, merely reflect the domination of those with less power by those with more, may end up questioning even the possibility of intellectual integrity, let alone the more specific moral and ethical aspects of enquiry. Such a negative conclusion is inevitable once political explanation is automatically elevated to a privileged position within the range of explanatory possibilities concerning the nature of enquiry and knowledge. But as well, such a devaluing of the ethical aspects of intellectual enquiry is equally inevitable if we hold, even implicitly, that the value of knowledge or enquiry is determined by the demands of a market, whether that market is one of student demand for university courses, or a market determined by wider society in which the value of study may be correlated with the social prestige of a profession or of a highly paid position.

Writing in his work *The Idea of a University* J. H. Newman (1873) pp.84-85 discussed concepts of education when he wrote:

You see then, there are two methods of Education; the end of the one is to be philosophical, of the other to be mechanical; the one rises towards general ideas, the other is exhausted upon what is particular and external.....We are instructed, for instance, in manual exercises, in the fine and useful arts, in trades, and in ways of business; for these are methods, which have little or no effect on the mind itself, are committed to memory, to tradition, or to use, and bear upon an end external to themselves. But education is a higher word; it implies an action on our mental nature, and the formation of a character; it is something individual and permanent.

Thus, Newman sees education, properly perceived, in a way that distinguishes it sharply from a conception of it as the mere transmission and acceptance of information, and from a conception of it of as merely the acquisition of technical skills for a job or profession. Here, let me say that I don't think that the situation we face today means that Newman's ideas should be adopted uncritically---in my view, when Newman distinguishes between the “philosophical” and “mechanical” types of education, this distinction should be considered as one of degree as well as of kind. Even an education which might be considered as purely mechanical or technical can often be given a character of the philosophical and the moral, depending upon the circumstances and the will to do it on the part of the teacher and the student. In fact, it is a challenge of university education today to find ways to imbue technical and vocational education with some of the characteristics that Newman had in mind when he wrote his words. The task of realizing integrity in education, enquiry and knowledge, as Newman puts it in this passage, is to ensure that “it implies an action on our mental nature, and the formation of a character”. When this occurs, the ethical potential of enquiry and knowledge becomes real, and that to a greater extent than Newman himself often allows, in my view. In this way universities have an opportunity to instil values and integrity through their primary functions, even in a secular environment not envisaged by Newman. Also, the task of instilling values remains one which seems to be recognized even today, when vocational education is even more a part of universities than it has been in the past.

Newman's view suggests that education and intellectual enquiry in their fullness are easier to realize when enquiry, and the pursuit of knowledge in general, are perceived as part of a whole, rather than as a technical pursuit, carried out for immediate goals which are not the subject of a wider reflection or scrutiny. On the aspect of regarding knowledge as a whole, he says Newman (1873) pp.85 and 99-100:

Not to know the relative disposition of things is the state of slaves or children.....That only is true enlargement of mind which is the power of viewing many things at once as one whole, of referring them severally to their true place in the universal system, of understanding their respective values, and determining their mutual dependence.....It makes everything in some sort lead to every thing else; it would communicate the image of the whole to every separate portion, till that whole becomes in imagination like a spirit, every where pervading and penetrating its component parts, giving them one definite meaning.

Integrity in knowledge is, I think, also related to a capacity to show this appreciation of the "relative disposition of things" and their relationships, regardless of what one personally might like or wish were the case.

Whereas Newman was considering the general and ideal nature of education and knowledge, the philosophers Herbert Spencer and Karl Popper were concerned with the growth of scientific knowledge and its different forms of development. Consider the following statement made in about 1891 by Herbert Spencer and quoted in Popper (1983), p.262:

The progress of science is duplex. It is at once from the special to the general and from the general to the special. It is analytical and synthetic at the same time.

In his Herbert Spencer Lecture given in 1961, Popper compared the growth of knowledge with the growth of an evolutionary tree, having a common stem and growing ever more and varied branches. In referring to Spencer's comment above, he said this in Popper (1983) p.262:

But if we are to compare these growing evolutionary trees with the structure of our growing knowledge, then we find that the growing tree of human knowledge has an utterly different structure...the growth of applied knowledge is very similar to the growth of tools and other instruments; there are always more and different and specialized applications. But pure knowledge (or "fundamental research" as it is sometimes called) grows in a very different way. It grows almost in the opposite direction to this increasing specialization...As Herbert Spencer noticed, it is largely dominated by a tendency towards increasing integration towards unified theories.

Here, Popper is saying that the search for "pure knowledge" leads to integration and integrity conceived of as wholeness, whereas applied knowledge proceeds by ever greater specialisation, perhaps even by fragmentation. Just as Newman contrasts instruction and education, Popper draws, by an apparent coincidence, an analogous contrast between applied and pure knowledge---what instruction is to education, so is applied research to pure research, in this comparison between Newman and Popper. But again, although Popper lies closer to us in time than Newman, I still don't think we should accept his ideas uncritically. In fact, I would venture to suggest that in knowledge, integrity is to be found neither in the particular in itself nor in the general in itself, not even in the "rise towards the general" as Newman puts it in the one place, but rather in the continuing interaction between the particular and the general, as he puts it differently in the other. For, if knowledge restricts itself to the mere listing or observation of particular cases or items of information, it becomes mechanical, and is open to Newman's objection to it as education. On the other hand, it is not possible intellectually to consider something that is purely general, because then one must ask: general in relation to what?

What is general only takes any intellectually substantive meaning when it is seen in relation to particulars. If integrity in knowledge and enquiry requires us to try and see things in their wholeness, then that means we should try and see things as a living and organic unity, rather than as a mechanism where all is determined by a technical knowledge of the individual parts, but where this knowledge is fragmented and where its fuller human significance has been lost. Equally, integrity requires us to be aware that what is whole or general almost certainly has come about from a consideration of particulars, and that it is the totality of these particulars that lends the full significance to what is whole or general. It is interesting to observe that both Newman and Popper, in their different ways, see knowledge ideally as having integrity conceived of as wholeness and totality.

The extent to which integrity and the ethical aspect of intellectual enquiry are realized depends on the state of mind of the individual and the effort which is put in by the individual to retain that awareness as work is carried out. If we accept that integrity in its fuller sense is to be realised by integrating disparate parts of experience into a whole, the question arises as to how and to what extent such wholeness is perceived. Our capacity is influenced by many things. But if we are ignorant and are unaware of the possibility of our ignorance, or if we are lacking in imagination, then ignorance and narrowness perpetuate themselves, and it is not possible for us to realize a concept of intellectual integrity for ourselves other than one which is stunted and technical--that is, one which is concerned only with the accuracy, applicability and immediate effects of results.

Integrity in Teaching and Learning

I have argued that teaching can be regarded as a form of enquiry---ideally it is a form of enquiry in which both students and teacher participate. So, if the ideas of integrity in inquiry and knowledge are as I have suggested, integrity in teaching will endeavour to promote this integrity of enquiry and knowledge. This requires a genuine commitment of the teacher to those ideals, for students are experts in detecting feigned or insincere attitudes. The single most important factor here, in my view, is respect for the student, and one way of concretely realizing this is by making learning and teaching a *mutual* task. By making learning a mutual task, the student may come to develop an inner confidence and come to feel that he or she has something unique and individual to bring to that task. The teacher should try to enable the student to maintain a balance between inner confidence and a feeling of being challenged, with the aim, over time and as required, of making the student able to accept intellectual challenge and independence with confidence, even with resolution. If that happens, integrity becomes spontaneous, as barriers between teachers and students collapse, and students forget all else in an experience of learning involving the whole person. However, in trying to achieve such moments, teachers face more difficulties than in the past, owing to changes in our wider culture and the influence these have had in universities.

Universities are under enormous pressure to regard student learning in purely technical terms for, although they have no overall consistent view, governments see the primary function of universities, for the most part, as being to meet the technical needs of society, a society which is more complex and making itself ever more complex by means of its increasing range of technologies and the further activities which these technologies make possible. Changes in universities are driven by a need for more training to respond to the complexity of society, but this training tends to have a merely technical complexity, rather than an intellectual complexity having more potential for realising values of integrity (see Nillsen (2004) for some discussion of this in a different context).

All of this creates problems in teaching from the integrity point of view. Concerning the education of law students, for example, the Professor of Law and Legal Studies at La Trobe University in Australia, Margaret Thornton (2004), has said:

.....as students try to make themselves attractive to prospective employers, the law curriculum is becoming narrower. As the market primarily values applied knowledge, the student-customers are opting primarily for those areas of law in which high-status corporate lawyers practise.....the commodification of legal education allows the socialisation of students to become good technocrats, desensitised to questionable business practices in which their corporate clients might engage.

Her remarks have, in my view, an applicability beyond the education of law students. In fact, in his lecture at the Symposium on Academic Integrity held at the University of Newcastle, NSW, in 2004, Professor Don McCabe commented that some business students in the USA have the attitude that they should not be particularly concerned with issues of integrity such as plagiarism or cheating, because they considered they were being trained to take a position in business and, as daily news reports and other sources made clear (in their perception), ethical integrity in business had little role to play as everything was judged on getting results, not on the manner in which those results were obtained. If a teacher or The University is to counter such attitudes as these, it can only be done by making the student aware of a larger intellectual and human picture within which such attitudes are seen to arise from a lack of awareness and from a state of mind which unjustifiably separates one's own actions and attitudes from their potential wider consequences, including consequences for the self as well as others. Thus, the notion of integrity in teaching as an encouragement for taking a wider and more unified intellectual perspective is eminently practical--in fact, it is really the only practical means for trying to combat the attitudes which see knowledge and learning purely as set of technical tools for a narrow purpose that is also narrowly conceived.

In suggesting that integrity in teaching is to an extent an endeavour to create a unity and balance in the student's learning and knowledge, it is essential to bear in mind the great variety of intellectual cultures and circumstances amongst the different parts of The University. Some areas lend themselves to an approach encouraging unity of different aspects of knowledge, while others have lesser potential. In the humanities, a concern for the wider picture is often implicit, while this tends not so much to be the case in, say, mathematics or engineering. All we can do is respond as best we can to the immediate circumstances in which we find ourselves, while bearing in mind that to instil values which are of importance to us and to society, and which transcend the confines of our discipline, we must make a conscious effort which is adapted to our immediate teaching situation. One practical way in which this can be done, and this is possible for virtually any area of knowledge provided there is time for it, or where time is made for it, is by allowing for discussion of the historical development of ideas in that area. By doing this, the teacher may provide a vantage point from which the current concerns in the area may be critically evaluated and seen from a wider, a more detached, and a more integrated perspective. Some difficulties of doing this in the present environment are indicated by Himmelfarb (1997), and I do not consider it to be a coincidence that the lack and degradation of historical awareness in the academy, and in society at large, is occurring at a time when the integrity of knowledge and of teaching is often overridden by a demand for instantaneous, unreflecting, and technical relevance.

One problem in realizing integrity in teaching is a practical one, arising in a particularly critical way for our times, and is expressed in an observation by Barnett (2000), p.44:

Our knowledge texts continue to expand at an ever faster rate so that the storehouse continues to expand and the proportion of its contents that will remain virtually imprisoned also continues to grow. Knowledge production and knowledge comprehension : the gap between them continues to widen evermore.

The truth of Barnett's point is a reason for placing more emphasis on teaching and learning as an endeavour to unify thought and knowledge, rather than acquiescing in the pressures to treat knowledge and learning as the acquisition of discrete and isolated pieces of information.

The Creation of Integrity

In striving for integrity in teaching, the teacher may need to completely re-examine how to think about the material that he or she teaches. In my own case of teaching a third year class in the mathematical theory of chaos, this led to the paper Nillsen (1997) which uses metaphor, analogy and a literary comparison to think again about how to place strictly mathematical concepts in a broader context, and one that is more accessible to students. At the same time, the paper was published in a scientific journal, and I was endeavouring to give a new scientific insight into the meaning of chaos as a mathematical concept arising from considering the problem of communicating that concept to students. The accessibility to students is important, because by presenting important concepts in new ways it can be made possible for students to present these ideas themselves, in class, as part of the teaching program. With this approach, which I have used in smaller classes at second and third year, the student becomes a teacher, and it is one way in which learning can become an explicit mutual task for the teacher and student, and a shared task for the class as a whole. For the teacher wishing to promote intellectual integrity in the sense in which the term is used here, such possibilities must be actively sought, but the attempt to then realize the possibility as an actuality may require a great deal of fundamental rethinking of the basic logical and scientific framework. More recently, Ahearn (2005) has discussed his use of Leo Tolstoy's epic novel *War and Peace* in his teaching of integral calculus classes. In *War and Peace*, Tolstoy uses some mathematical concepts as metaphors to illustrate his philosophy of historical development. Ahearn comments:

These metaphors are unlike any other mathematical references I have seen in literature. They are not numerology, nor has Tolstoy simply appropriated mathematical terms. These metaphors are rich and deep, requiring knowledge of some mathematics to fully comprehend their meaning. And they do what good metaphors should do: they enhance and clarify a reader's understanding of Tolstoy's Theory.

Further possibilities for the relationship between mathematics and history along these lines, but for the theory of chaos rather than the calculus, arise from the comments by the historian Niall Ferguson (1997) in his introduction to the work *Virtual History*. All of these provide concrete ideas for seeing mathematical ideas in a broader context. The effect of using such ideas on students can be one of surprise, as they see unexpected connections between their primary area of study and something that they may have thought little about before, but this is precisely the type of experience which the teacher wishing to create integrity in learning should try and make possible. Such an approach also serves to illustrate what we might term a "balance of knowledge and a respect for ideas" between different disciplines and ways of thinking, in which no one way of thinking is seen as subservient to the other.

In teaching, we should aim to create a positive atmosphere and avoid teaching in a mechanical way---students sense the attitude of the teacher towards their task as a teacher and, directly or indirectly, towards themselves as students. Any lack of interest or commitment by the teacher reasonably can be seen as a lack of interest in the student as a student, with the inevitable effect of a barrier developing between teacher and student. Although the changing circumstances in universities mean that vocational aspects of education are more important than they used to be, teachers should avoid the idea that their teaching is no more than a type of practical training or information-collecting exercise, where broader issues such as intellectual and moral integrity need not impinge. The teacher may need to bear in mind all the time the “transcending state of affairs” appropriate to the circumstances, because such a mental disposition will communicate itself, over time, to the students. Where possible, the teacher will involve students in learning as a shared task and will treat all students as being potential contributors to this task--for in the teacher's interaction with students, the abilities of the students should be relevant only in so far as these affect what it is suitable for the teacher to teach and for students to learn.

Is there a capacity on the part of students to enjoy and integrate their learning? Well, I think it's in all of us, and that's why it is possible in the right circumstances to observe students forget their anxieties about passing an examination or whether they will get a job at the end of their studies, and give themselves over to their studies with enthusiasm and the wider experience of learning. However, for this to happen, a type of “forgetfulness” must be created in the student, whereby the student loses himself or herself in a perception of ideas, insights, connections and interactions that the environment created by the teacher, and even by the students, has made possible. The environment must be created, for although the teacher cannot force an attitude on the student, the teacher can facilitate integrity in learning by creating a conducive environment--by creating suitable environments the teacher realizes his or her own integrity as well as making that integrity possible for others. Some more detailed ideas on how to do this may be found in Nillsen (2004).

Conclusion

Whereas Newman produced a coherent view of The University for his own times, in a language which still resonates with us today even when the circumstances are so different, there is no coherent and inspiring view of The University which reflects the new reality and the new circumstances. As Frank M. Turner (1996), pp.281 and 292, expresses the problem:

[Newman] articulated a vision of the university against which alternative visions despite their relevance, usefulness, and practicality make the activity of the university seem intellectually and morally diminished.....No matter how much Newman's description and prescription of university life differ from contemporary reality, no alternative rhetoric has succeeded in substituting itself for Newman's in the sphere of public discourse on higher education.

Now it may be the case, as Barnett (2000) argues, that incoherence has become an unavoidable feature of universities, owing to the many demands placed upon them and the apparently irreconcilable contradictions existing between these demands. But even if one thinks this prognosis too pessimistic, there is no questioning that the realization of integrity in teaching and learning remains a challenge---but then, it always has been, and it has always been the case that Newman's vision of the University has been only partially accepted, perceived and acted upon, even if, in the past, there was more awareness of his rhetoric and more knowledge of his writings than there is today.

Integrity is a product of culture, and it cannot be created by mechanical rules or procedures, however much these may be useful. Integrity requires us to view things in their *organic* reality, not their *mechanical* reality. Integrity arises from a culture and refers to an inner but comprehensive state, not to mere conformity to external rules and procedures, nor from an instrumental reason that is divorced from both the object of reason and from the person making use of reason.

The teacher interested in promoting integrity in the sense described here has many options, and some specific ones have been indicated. But perhaps the most important requirement is for the teacher to develop a sense of integrity in learning and knowledge as a lifetime project, for only then will the teacher find ways of promoting integrity in the very varied circumstances that the different teachers face.

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