Wisdom in Student Assignments:
Its Operationalisation and Manifestation

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Abstract

The paper examines the presence of knowledge-related wisdom in student assignments by applying the constructs of wisdom developed by researchers at the Max Plank Institute for Human Development in Berlin. They are factual knowledge, procedural knowledge, contextualisation, relativism, and uncertainty. Reciprocal instructor wisdom was operationalised as intellectual excellence, inter-personal skills and experience. The manifestations of wisdom were observed in the completion of a case study requiring students to analyse IT benefit management practices. The findings of the study indicated satisfactory to good levels of factual and procedural knowledge, high levels of relativism but low levels of contextualisation and dealing with uncertainty. Even though previous research has shown the presence of wisdom at an early age, the findings of this student-oriented study should be pleasantly surprising to most academics.

Keywords: knowledge-related wisdom, manifestations of wisdom, student assignments, student wisdom

Introduction

It is generally accepted that wisdom represent a high, if not the highest, desirable level of human development and it is often assumed that it is only achieved after a life time of gaining knowledge and experiences. However, research has found this not necessarily to be true. An important finding in research carried out at the Max Plank Institute for Human Development in Berlin was that "our studies suggest that wisdom-related knowledge increases during adolescence and young adulthood ... and then remain stable, at least up to age 75" (Baltes, Kunzman, & Stange, n.d., p. 197) Thus, it is at a relatively early stage in human development, significant opportunity exist to acquire the quality of human existence referred to as wisdom.

This paper will provide various interpretations of wisdom but, more importantly, places wisdom into the context of the tertiary education environment. As indicated by the research referenced above, namely the presence of wisdom at an early age, it is worthwhile exploring the presence of wisdom among younger people such as students. An analysis will be provided to outline how manifestations of wisdom can be observed in the work of students who fall typically in to the age bracket mentioned above. This may intuitively not be believable to educators but, as will be seen in the paper, manifestation of wisdom can be observed. The paper will identify these to increase not only educators' awareness of the phenomenon but also their ability to focus on and hence in-

crease wisdom content and transfer in their teaching.

Wisdom: an Overview

Attempts to operationalise the wisdom construct have largely been made in the context of human life development. As already referenced above, the "Berlin Wisdom Project" is prominent in this respect and offers the following comment: "On the most general level we have defined wisdom as expert knowledge and judgement about important, difficult and uncertain questions associated with the meaning and conduct of life." (Baltes & Kunzman, 2003, p. 131). Though acknowledging that wisdom is a multifaceted concept and of a multidisciplinary nature, they focused on psychological and behavioural aspects so far in their research. The latter appears to be the current trend; "Wisdom was formerly linked to the early classical philosophers, but we now see that it has been claimed by psychology with much of the recent research being undertaken in the USA and Germany." (Small, 2004, p. 752)

According to Baltes and Staudinger (2000), under the psychological (also referred to by them as common sense) perspective, wisdom is related to excellence and ideals of human development and involves good intentions. Thus, for the educationalist, it is a noble objective to develop his or her students to the highest level possible, and for the student it is a worthwhile state to achieve. Baltes and Staudinger (2000) provide some guidance on how this can be achieved by stating that wisdom has specific meanings that are widely shared in its language-based representation. In other words, the construct can be operationalised, thus enabling the educator to observe and manage dimensions of wisdom in their students.

However, they also observed that wisdom is a co-ordinated and balanced interplay of intellectual, affective and emotional aspects of human functioning. This provides a challenge to the educator who has to consider cognitive as well as behavioural aspects of students when determining the level of wisdom present. Expectations are further increased by what Baltes and Staudinger (2000) perceive as wisdom requiring a high degree of personal and interpersonal competence. This is most likely determined by the context in which knowledge–related wisdom is observed. This is particular relevant to the instructor in that his/her personality and competence plays a large role in the transfer of wisdom.

The Berlin researchers define the behavioural aspects of wisdom as personality dispositions, post-formal and dialectical thought, and possessing expertise to deal with meaning and conduct of life. For students a number of factors can readily be observed that complicate behavioural aspects, such as generational aspects and cultural dimensions. In respect of the former, for example, Ob-linger (2003) refers to the "new" and "non-traditional student". The former can be one of three types: the millennial (born after 1982) who uses instant messaging, generation X who expect customer service, and the baby boomers who endeavour to balance work and family. This diversity is further increased by "non-traditional' factors such as students who have substantially delayed enrolment, attend part-time and work full time, and may lack formal under-graduate qualifications.

Another well known wisdom researcher was Sternberg who, according to Small (2004), in 1990 "wrote, inter alia, that wisdom was about as elusive as psychological constructs get, and then he stated that to understand wisdom fully and correctly probably required more wisdom than any of us have" (cited by Small, 2004, p.754). Sternberg (1990) was an early psychological researcher to define and operationalise wisdom. According to Small (2004), the five criteria developed by Sternberg were rich factual knowledge, rich procedural knowledge, life span contextualisation, relativism, and uncertainty.

They align closely with the approach adopted in the Berlin Wisdom Paradigm which grouped them as "A family of five criteria for assessing the quality of wisdom-related performance" (Bal-

tes & Staudinger, 2000, p. 125): 2 general basic wisdom criteria (factual knowledge, procedural knowledge) and 3 meta criteria (contextualism, relativism of values and priorities, recognition of and management of uncertainty). These concepts will be explained in a later section as they were used to observe wisdom in a student assignment.

Small (2004) commented on the work of philosophers in the classical area and classified this as wisdom representing simply a 'quality', such as being able to make good judgements, or staying out of trouble or reaching retirement age. However, what seems more relevant today, especially in an educational context, is the question of 'getting wisdom'.

Development of Wisdom

As already mentioned, the Berlin wisdom researchers focused on lifespan psychology which resulted in a theoretical model of what they termed the ontogenesis of wisdom – a sequence of events involved in the development of the individual organism from its birth to its death. Their research indicated a wisdom-intensive period, namely "the major period of acquisition of wisdom-related knowledge and judgement before early adulthood is the range from about 15 to 25 years" (Baltes & Staudinger, 2000, p. 128). Furthermore, the Berlin researchers found that there was "evidence that adults who specialize in professions, which provide extensive training and practice in difficult and uncertain life matters … show higher wisdom-related performance" (Baltes et al., n.d., p. 198).

The age and profession dimensions of wisdom resonate well with university education at the Australian university from where this paper originates. Students typically are young adults and undertake applied, professionally oriented courses in business. As outlined in a later section, wisdom was observed for students studying the Masters unit titled "IT Evaluation and Benefits Management" in which students learn how to maximise the returns from an investment in Information Technology (IT). The unit is part of a qualification in the discipline of Management Information Systems and, like the other units in the course, provides skill and knowledge in the rapidly changing IT as well as business environments.

The common belief is that students seek knowledge. More challenging for the instructor is to also impart wisdom to their students. Baltes et al. (n.d.) provide guidance for this by linking wisdom not only to knowledge but also behaviour. In fact, quoting them, teaching should be "systematically extended from wisdom as a theory of knowledge to wisdom as a characteristic of people and behavioural expressions" (p. 200). This would achieve the "integration of mind and virtue as the optimum of human functioning" (Baltes et al., n.d., p. 200).

Accepting the above premise that wisdom is a consequence of developing knowledge as well as personal traits, the role of the adviser becomes even more important. He/she has to balance a range of manifestations of wisdom in the curriculum, summarised by Baltes and Staudinger (2000) as

- providing superior level of knowledge, judgement and advice;
- addressing strategies about conduct and meaning;
- including knowledge about limits of knowledge and uncertainties;
- providing knowledge of extraordinary scope, depth and balance;
- achieving perfect synergy of mind and character (knowledge and virtue);
- accepting that knowledge is used for the good and well being of oneself and others; and
- recognising the difficulty to achieve and specify wisdom but able to recognise it when manifested.

In preparing him/herself for the challenge, the instructor should consider known predictors of wisdom. Research by Baltes & Kunzman (2003) indicated that predictors of wisdom related knowledge included

- cognitive factors such as intelligence;
- personality related factors: openness to experience, generativity, creativity, judicial cognitive style (a preference for comparing, evaluating and judging information);
- specific life experiences (being trained in a field concerned with difficult life problems);
- having wisdom-enhancing mentors; and
- having been exposed to certain idiographic events or societal conditions and a sense of mastery of these experiences.

The instructor brings to bear certain characteristics that facilitate the development of wisdom in students. "A person will be consulted for advice because the advice seeker assumes that this person will be helpful and provide insights that differ from one's own" (Stange, 2005, p. 47). According to Stange (2005), wisdom of what she calls in an advice-giving context, involves both the intellectual and interpersonal domains and should reflect experience. Three constructs can be identified: intellectual excellence, inter-personal skills and experience.

According to Stange (2005) intellectual excellence is a comprehensive concept which she defined as high-level knowledge, exceptional understanding, exceptional judgement and communication skills, reflective judgement (contextualism and recognition of uncertainty), ability to find a good solution, preparedness to acknowledge the dialectical nature of life problems (propositions and counter propositions), ability to identify and accept the contradictory and relativistic nature of knowledge, factual knowledge (general and specific) and procedural knowledge (ways of dealing, strategies, timing).

Stange (2005) perceives interpersonal skills as behavioural manifestations of wisdom, reflected in the sensitive, compassionate, empathic, concern for others, being patient and a good listener (not passive but actively processes the information and influences course of interaction). On the other hand, Stange (2005) uses age as a proxy for experience for the reason that experience is developed through structured interactions in different life contexts and involving varied problems. Age has been shown to be associated with the dimensions of wisdom. Defilipo (1996), cited by Stange (2005), found that college students' words associated with wisdom were old (70% of all respondents), intelligence (49%), knowledge (48%), experience (39%).

Manifestations of Student Wisdom

The objective of this paper is to analyse how wisdom manifests itself in student assignments. This is provided in the sections below which discuss the case study assignment that students completed and the use of wisdom-operationalised variables to examine the extent to which wisdom could be observed during and at the completion of the assignment.

The Case Study

The student assignment, comprising the major assessment to complete the earlier mentioned Master unit, took the form of a case study focusing on managing the benefits of an IT investment. In the unit students learned about the three major phases of this activity, namely the ex ante, realisation, and ex post activities. Ex ante activities are about producing a business case to justify the IT investment, during the realisation phase, IT benefit realisation activities integrate with IT development and implementation activities, while during the ex post stage, the success of the IT investment is evaluated.

The case study was titled "Infosys Technologies Limited: Unleashing CIMBA" (Chatterjee and Watson, 2005) and outlined the activities and experiences of this large Indian company during the implementation of a Customer Relationship Management (CRM) system called CIMBA. The information provided in the case, however, focused far more on IT rather than on IT benefit management (ITBM) activities. This is not unusual as the majority of organisations are more concerned with the former rather than with the latter which can be to their detriment as the promised IT benefits are not realised as predicted.

Students were required to produce a management report for Infosys in which they examined the material provided to them purely from an ITBM perspective, i.e. ignoring IT technical aspects but analysing the business aspects of the IT investment. They were required to use the knowledge they had gained in the unit to examine the ITBM practices carried out by Infosys and make recommendations on how these practices could be improved. In other words, they assessed practice against the theory that had been taught and used their skill to produce a business report to communicate and present their findings and recommendations.

The essentials of the domain knowledge required for ITBM was provided by two methodologies, namely 'Value from IT' (ValIT) (Information Technology Governance Institute, 2006) and 'Active Benefit Realisation' (ABR) (Remenyi, Sherwood-Smith, & White, 1997). They are complementary in covering the scope and activities required for the domain knowledge in that ValIT covers ex ante and ex post activities while the focus of ABR is primarily on benefit realisation.

This paper reflects on the manifestations of student wisdom in the assignment described above and according to constructs identified earlier. The research model is shown in Figure 1 below.
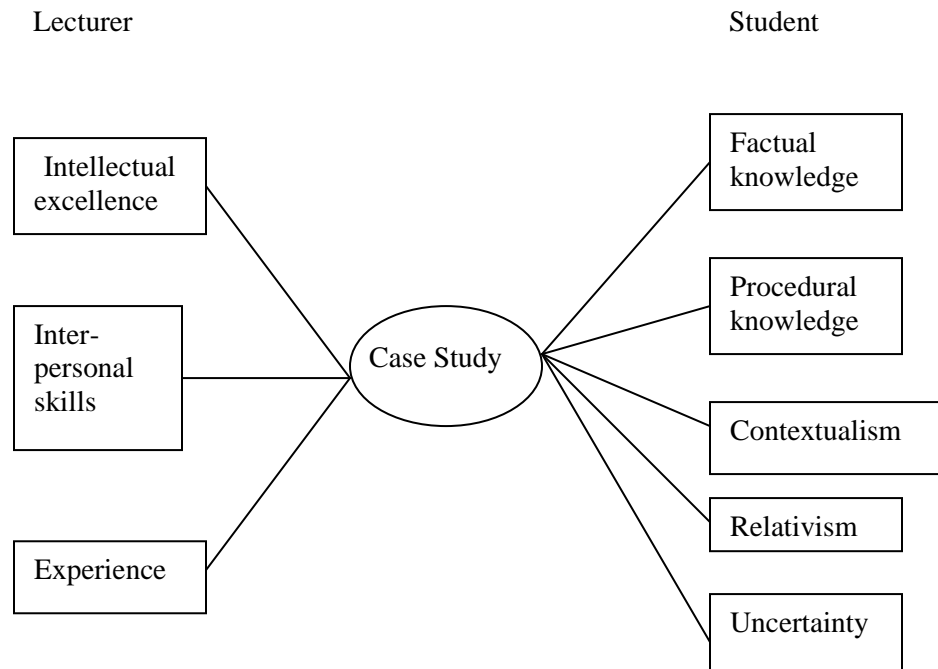

Figure 1: Research Model

Reflections of Student Wisdom

There were 35 students completing the case study assignment. They were allowed to approach the assignment individually or with one other person. Twenty reports were submitted which enabled interpretations of student wisdom to be developed and presented in the discussions below. The interpretation followed the marking scheme template used when assessing the assignment, namely poor, weak, satisfactory, good and excellent.

Factual knowledge

This essentially is demonstrating knowledge about the topic. For the case study, students were expected to apply the knowledge they had gained on ITBM in three areas, namely ex ante, realisation, and ex post activities. The marked assignments indicated that this aspect was present at a satisfactory to good levels.

Procedural knowledge

This can defined as knowledge about strategies and heuristics required for dealing with the topic. Since the assignment required students to analysis the practices at Infosys, they had to provide an analysis on how practice reflected theory. In other words, the strategy they applied was to use the factual knowledge they had gained to establish the strengths of Infosys in effectively managing ITBM, the weaknesses and addressing the weaknesses by making appropriate recommendations to the organisation. Again, this aspect was assessed at the satisfactory/good level.

Contextualism

There are various themes that should be considered in the context of the topic, identified by Baltes and Staudinger (2000) to include interrelations, cultural versions and temporal perspectives. For this particular assignment, the inter-relationships between managing IT benefits and the rest of the IT project were crucial. The two should be inter-connected in that the IT project should only continue to proceed if the promised benefits are realised as the project emerges. To consciously identify and co-ordinate the IT benefits and technical aspects of a project has been shown to be difficult (Remenyi et al., 1997).

Introducing and outlining the assignment to the students prior to its analysis proved to be one of the most difficult aspects for the class to understand. The reason was that students had previously gained far more IT technical knowledge than IT benefit knowledge and found it difficult to place the case study firmly into the latter domain. Cultural context did not apply since the case study reflected the international aspects of IT projects rather than a particular Indian one. The temporal nature was well recognised since the review was based on the information provided at the particular stage of the project.

When the reports were submitted, it was found that about half had still no clear understanding of the contextualisation of the assignment, i.e. its scope was to examine ITBM issues within Infosys. Hence this aspect of student wisdom can only be observed as being weak to satisfactory.

Relativism of values and priorities

Baltes and Staudinger (2000) define this as tolerance for value differences and relativity held by individuals and society. However it is also the recognition of certain universal values, knowledge, judgement and advice. While the case material referred to the implementation of a computer system in a large Indian organisation, there were no value differences apparent. In other words, Infosys' management practised IT principles regarded universal for the discipline. Thus it could be assumed that these universal principles of good IT management should be reflected in the implementation of Infosys' CRM system.

Within the student group, however, diversity existed since student came from varying cultural backgrounds. The largest cohort had come to Australia from India to study and would have found the case study of interest. India is recognised as IT savvy but the students would not have possessed knowledge and skills taught in the unit, namely how to manage IT benefits effectively. The teaching reflected universally accepted approaches since it drew from international sources, reflected in publications originating in the UK, USA and Australia.

When the student reports were submitted, there was no evidence that students had considered or included interpretations reflecting either the 'Indianess' of the case material or their own cultural backgrounds. Instead, the reports reflected the approach (i.e. rational and objective analysis) and format (i.e. structure encompassing an executive summary, scope, approach, etc) expected of a professionally produced business report. In the report's section titled 'Approach' they furthermore declared their position, vis-à-vis that the report was developed from the material available to them as reviewers independent of the Infosys organisation. It was therefore concluded that the aspect of relativism was of a 'good' standard.

Recognition of and management of uncertainty

As stated by Baltes and Staudinger (2000), human information processing (HIP) capability is constraint and humans can only access selected parts of reality and, furthermore, the future cannot be fully known in advance. The HIP limitation is well known and exists because our short-term memory is able to produce 5 plus-or-minus 2 pieces of information with further information having to be retrieved from long-term memory. To facilitate the retrieval of more knowledge, methodologies have been developed to guide and prompt the user to carry out a more comprehensive analysis. As indicated earlier, students could apply two methodologies during the case analysis, namely ValIT and ABR.

The assignments indicated that the two methodologies had been followed but with varying success. Students had to select those aspects in the methodologies that they perceived provided the best guidance for the execution of the review. This was complicated by the nature of a case study itself, namely that information provided was lacking and it was not possible to seek additional information or clarification by contacting the organisation. Overall, the standard of using the methodologies varied widely and few students recognised that the uncertainty inherent in the information provided to them needed to be acknowledged in the report itself. Thus this aspect was assessed as weak to satisfactory.

Table 1: Summary of Observed Student Wisdom

Variables	Manifestations	Wisdom
Factual knowledge	Ex ante: the business case Realisation: part of IT project Ex post: review of implementation	Satisfactory to good
Procedural knowledge	Identify strengths Identify weaknesses Make recommendations	Satisfactory to good
Contextualism	Focus on ITBM issues Snapshot at that stage of the CRM system development	Weak to satisfactory
Relativism	Compliance with business report approach and format Carried out as an objective, independent reviewer	Good
Uncertainty	Use of methodologies Recognise information limitations	Weak to satisfactory

Reflections on Lecturer Wisdom

The following are the personal reflections of the lead researcher/instructor.

Intellectual excellence

I hold the position of Associate Professor at my university; a recognition to a large degree of intellectual excellence. The position would not have been reached without demonstrating high levels of knowledge and understanding of the subject domain, acknowledged by peers in the form of refereed publications. The majority of publications are research based requiring reflective judgement and an acknowledgement of the dialectical nature of life problems (propositions and counter propositions). Furthermore, in order to advance knowledge, publications have to identify and accept the contradictory and relativistic nature of knowledge. Factual knowledge in ITBM was demonstrated by an in-depth understanding of ValIT and ABR while procedural knowledge in finding solutions, dealing with problems, etc. had been gained over time in managing and assessing similar student assignments.

Interpersonal skills

To guide students in completing the assignment, a diverse range of interpersonal skills had to be demonstrated. This started from introducing the assignment (e.g. explaining its purpose), to having class and individual discussions (e.g. to discover key aspects) to providing verbal feedback on the progress of the reports (e.g. by listening). The aim of engaging with the students was to provide a suitable learning environment through personal interaction thereby ensuring an effective learning outcome.

Experience

Since I have been teaching at the university level for over twenty years, age can be accepted as a surrogate measure for experience. Prior to joining the university sector I practiced as an IT consultant. Both experiences (academic and professional) exposed me to many different business contexts, problems and finding solutions. These situations occurred in a structured environment similar to the case study being analysed by the students.

Table 2: Summary of Perceived Lecturer Wisdom

Variables	Manifestations	Wisdom
Intellectual excellence	Status: Associate Professor Achievements: Refereed publications Knowledge: factual and procedural	High
Inter-personal skills	Discussions: exploring the assignment Listening: progress of developing assignments Interactions: learning environment	High
Experience	More than 20 years in academe Previous professional experience	High

Discussion and Conclusion

It is difficult in life to observe manifestations of wisdom-related knowledge since its underlying dimensions are not well known and/or little agreement exist on how to operationalise the concept in order to obtain a form of measurement. This paper identified a number of dimensions that appeared relevant to the context of study, namely its suitability for observing students (young adults) during the completion of an assignment, and that enabled these dimensions to be observed. The findings would be pleasantly surprising to most academics.

Most instructors would regard their first priority to impart knowledge to their students. The study found that for both factual and procedural knowledge, students exhibited satisfactory to good levels of knowledge during the completion of the assignment. What was particularly satisfying was the high levels of relativism shown in carrying out professional business analysis and reporting. Least satisfactory were two aspects, namely contextualisation and dealing with uncertainty.

While contextualisation in this paper is interpreted as referring to completing the case study in the context of ITBM, the term has wider meaning which may have been the reason why it was observed as being weak to satisfactory across the student group. It was assumed that the practices of ITBM, as taught in the unit, are universally accepted. However, this is not necessarily the case since general features of a discipline, such as ITBM, may be less relevant to certain subgroups. For example, for the group of Australian, professionally employed part-time students, the business-like and rational approach inherent in the teaching would have been easy to accept and apply. On the other hand, for some of the fulltime students who have lacked business experience or background since they could have studied a different discipline, such as computer science, the approach would be far harder to understand and apply.

Uncertainty can be ameliorated through the use of methodologies which provided a prescription on how to deal with the subject matter. It may well have been the case that students were inexperienced in applying methodologies to help solve problems and develop solutions. Only repeated use of the approach would increase levels of certainty. Wisdom takes time; yet the unit was conducted over a relative short time of 12 weeks. However at the end of semester, students provided feedback on how it may 'all have fell together' as seen from the student email below.

> "Just to let you know that this is one unit I've enjoyed most. The approach to the case study assignment in particular was an eye opener, especially as it unfolded through the weeks and our expectations became clearer- I speak on behalf of 2 other students as well who were simply fascinated by it. Goodness only knows how one assignment did manage to bring out a semester's worth of treasure....if only I'd devoted more time to it -:) Please keep up the good works and a big thankyou for your commitment!"

This MIS discipline has evolved over time from a focus on managing data, to information and more recently knowledge. Why has it not taken 'the next step' by incorporating considerations of wisdom? This has attracted the attention of some researchers. For example Rowley (2006) attributes the reluctance to acknowledge wisdom as an area worth considering by pointing to our "suspicion that wisdom might be difficult to manage and cultivate" (p. 1246) or that modern action-oriented disciplines are too pragmatic for such an esoteric concept, or that there has been a failure to articulate wisdom-based strategies which educators, business leaders, etc could follow.

The paper has focused on interpreting what Baltes and Staudinger (2000) refer to as "common sense approach to wisdom". Another term that could be used in the context of this paper is 'practical wisdom'. This was first recognised by the early Greeks who differentiated between 'theoretical wisdom' and 'practical wisdom' (Small, 2004). This acknowledges the limitation of the paper in its scope, namely its particular focus. Yet, the topic has been and continuous to be examined in a wide spectrum of disciplines including philosophy, religious studies, cultural anthropology, political science and education (see Baltes and Staudinger, 2000).

It is hoped that the paper has contributed to our continuing efforts to re-examine education. Like any discipline it should undergo rejuvenation from time to time by reflecting on its attainments, status and future directions. As educators, our main mission is to provide our students with knowledge about the world they are about to enter. Educators are generally very well equipped to guide students in this respect as they contribute high levels of the required supporting knowledge. Is it too much to ask them to also provide them with knowledge-related wisdom, i.e. to achieve synergy between mind and virtue?

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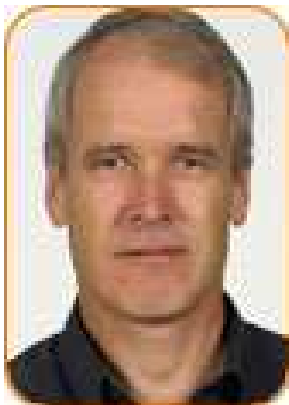
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