Unearthing learners' conceptions of reflection to innovate business education for the 21st century

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Abstract: The development of learners' capacities for critical reflection is an important learning outcome for 21st century business education. Theories suggest that a learner holds a particular orientation to reflection, and that this perspective will be influenced by his or her underlying beliefs. This, coupled with an increased focus on the student experience, personal development, and self-regulation in higher education, offers scope for considering instructional design from a second-order perspective, or in other words, from the student's point of view. This study sought to understand: 1) the ways that business students orientate to reflection, 2) the different conceptions they hold of reflection, and 3) whether there is a relationship between the two. Reflective learning questionnaires were completed by 112 business students studying at the University of Northampton. Survey results showed that while the research instrument was a good fit for investigating orientations to and conceptions of reflection, there did not appear to be a correlation between the two. Learning analytics such as these will be useful for considering how the University can design more meaningful business curricula. However, the disconnect between conceptions of and orientations to reflection needs to be explored through further research.

Background

Arguably, a principal aim of higher education is to develop learners' capacities for critical reflection. Critical reflection supports the processes of professional judgement and ethical understanding (Lucas & Tan, 2013). As such, it is commonly embedded into the curriculum, especially in courses that lead to professional qualifications (Stewart & Richardson, 2000; Ross, 2011).

Beyond such practical examples is the wider belief that being reflective is integral to the development of sophisticated epistemic beliefs—or beliefs about the nature of knowledge. Theories of epistemological development such as Perry's (1970) scheme of intellectual development and Baxter Magolda's (1992) 'ways of knowing' suggest that students with deeper capacities for reflection will be stronger thinkers and will have a greater ability to deal with ill-structured problems (cf. Kuhn, 1991).

Capacities for critical reflection overlap with problem-solving and decision making skills, when viewed as a framework for graduate employability (Jackson, 2009). Indeed the ability for business graduates to negotiate ambiguous situations and solve complex problems are perceived by employers as part of an ideal set of employee attributes (Andrews & Higson, 2008).

To be responsive to the needs of students and of employers, it is important for higher education institutions to design the business curriculum in a way that develops learners' skills for critical reflection. This paper argues that, in designing learning opportunities for business students, higher education institutions and educators should take into account students' own beliefs about reflection. By taking a second-order perspective, learning can be designed in a way that is more relevant and meaningful to the students' own lifelong learning.

Introduction

Literature on reflective practice supports the notion that each learner will have a particular orientation to reflection and that this perspective will have implications for a student's learning. Mezirow (1981), for example, proposed seven levels of reflectivity and Butler (1996) proposed that different levels of competency will suggest different orientations to reflection. These insights raise the question: Why do students have certain orientations to reflection?

Marton and Säljö's (1976) work provides a way of considering this question. They found that individuals already have a normal conception of learning that influences their approach to learning. Therefore, it is plausible to claim that a student's underlying conception of reflection will influence their orientation to reflection.

This study sought to understand learners' underlying beliefs about reflection for the purposes of designing a business studies curriculum that was more relevant and responsive to today's future professionals. In particular, this study addressed four main research questions: 1) How do business

students orientate to reflection? 2) How do business students conceptualize reflection? 3) What are the relationships between their orientations to and their conceptions of reflection? 4) How can these analytics help us to design a more meaningful business studies curriculum? This paper reports on empirical research that was carried out to address the first three research questions. The last research question will be the basis of further pedagogic research.

Orientations to and conceptions of reflection

Mezirow (1991) differentiated between reflective and non-reflective actions among learners. Non-reflective action, according to Mezirow, included habitual action, thoughtful action and introspection. Reflective actions included content reflection, process reflection and premise reflection (i.e. critical reflection).

Kember et al. (2000) developed the Questionnaire of Reflective Thinking (QRT) to measure university students' reflectivity using Mezirow's (1991) types of reflective/non-reflective action. The QRT asked participants to offer a response from 'definitely agree' to 'definitely disagree', with three other rankings in between. The questions were linked to four different 'actions' that were derived from Mezirow's framework. These were: 'habitual action', 'understanding', 'reflection' and 'critical reflection' (pp. 383-385). For example, a question determining habitual action asked the students to rate their beliefs toward the following statement: 'If I follow what the lecturer says, I do not have to think too much on this course' (p. 395).

After trialling the QRT several times, a final version was completed by 303 students studying Health Science at a Hong Kong university. Responses from this sample were analysed using the four scales. Findings for the whole group showed that those who scored high in critical reflection scored low in habitual action. When the results were analysed to compare the scores of the undergraduates to the postgraduates from within the same group, it was found that the postgraduates were less likely to engage in habitual action and more likely to employ reflection or critical reflection than the undergraduates (significant at 5%). Subsequent studies have trialled the QRT and have experienced varying degrees of reliability (cf. Lucas & Tan, 2007; Ayub Buzdar & Ali, 2013).

Dewey acknowledged that frameworks for understanding the role of reflection in learning do not represent the processes or motivations of all learners and that educators 'should not try to force one pattern and model upon them all' (Dewey, 1910, p. 143). Indeed, it is reasonable to assume that each learner will have a particular orientation to reflection and that this perspective will have implications for that student's learning. But where does a learner's fundamental orientation to reflection originate?

Marton and Säljö (1976) suggested that individuals already have a 'normal conception of learning' that influences their approach to a task. Säljö (1979) interviewed 90 participants ranging in age from 15 to 73 years of age and in level of formal education from 6 years to 17 years. He discovered five different conceptions of learning:

(1) as an increase in knowledge,
(2) as memorising,
(3) as acquiring facts that can be used,
(4) as the abstraction of meaning and
(5) as interpreting and understanding reality.

Van Rossum, Deijkers and Hamer's (1985) research found a similar set of conceptions of learning but added a sixth conception of 'learning as growing in self-awareness'.

In a similar way, Alden (2011) investigated distance learners' conceptions of reflection. The findings from Alden's study showed that distance learners understood reflection in seven qualitatively different ways, and that these categories of description could be viewed as a developmental model (see Figure 1).

For the purposes of the present study, the focus was on orientations to and conceptions of reflection among campus-based undergraduate students on a business studies program. Existing literature offers possible frameworks and methods for exploring such phenomena but it is not understood exactly how such students orientate to and conceptualize reflection. Nor are we aware of whether there is a real relationship between beliefs about and approaches to reflection.

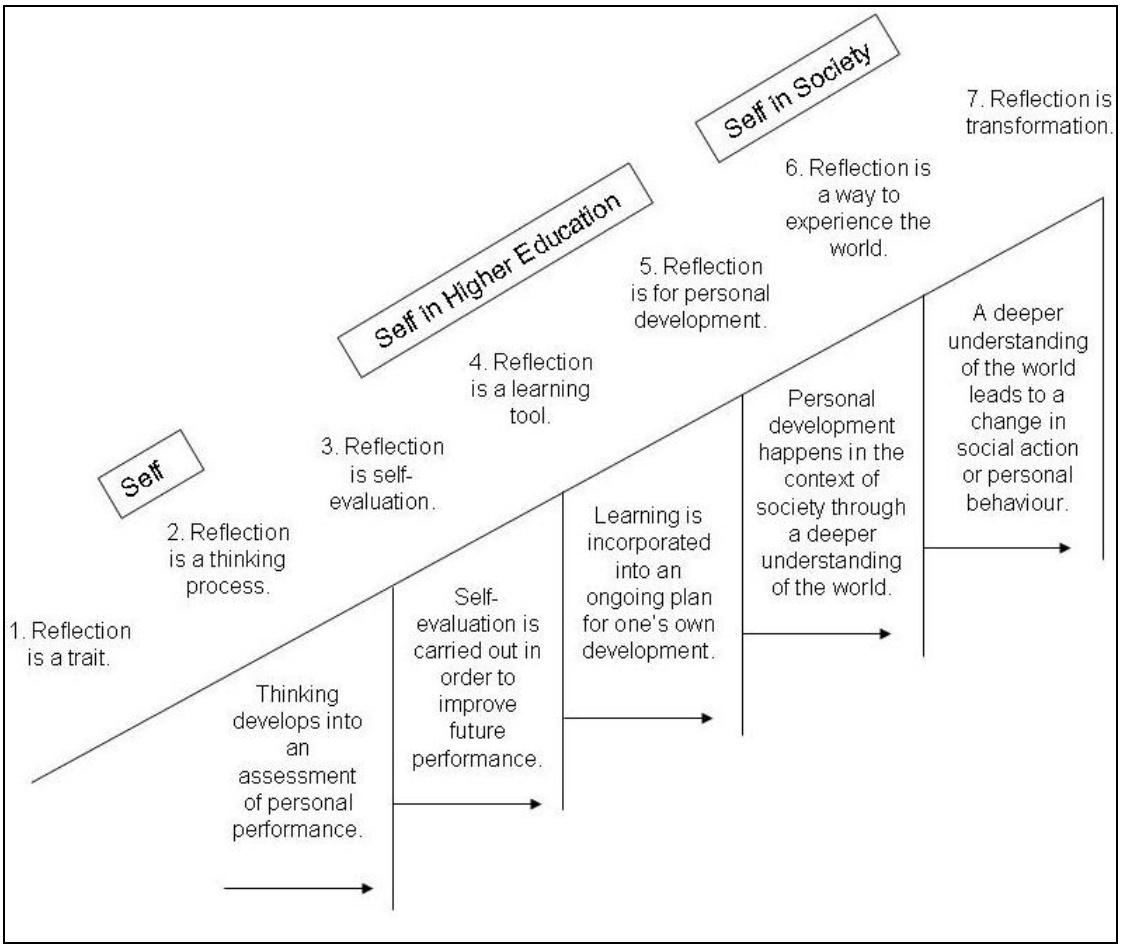

Figure 1: Conceptions of reflection among distance learners in higher education (adapted from Alden, 2011)

The study

A questionnaire was developed using the same questions from Kember et al.'s QRT and the open-ended questions used in Alden's study of distance learners' conceptions of reflection (see Appendix A for a full set of questions). After receiving approval from the University of Northampton's Ethics Committee, the questionnaire was distributed to approximately 500 undergraduate students studying full-time at Northampton Business School. Completed surveys were received from 112 participants. This represents a response rate of 22 percent, which the authors considered a good response for a paper-based survey that was not directly concerned with the students' experience of their courses.

Profile of participants

Several of the questions asked participants to self-report demographic, enrolment and contextual data. Table 1 is a profile of participants along these variables.

Analysis and Findings

The questionnaire included both quantitative data (in response to orientations to reflection) and qualitative data (in response to conceptions of reflection). These data were analysed separately in order to address research questions one and two, respectively. Then, these data were analysed together in order to address research question three.

Table 1: Profile of participants (*N*=112)

Variable	*n* (%)
Gender	
Female	54 (49)
Male	58 (51)
Year of study	
First	38 (35)
Second	5 (4)
Third	69 (63)
Age (years)	
Range	18 to 49
Mean	21
Median	20
Mode	20
Employment status	
Full time	4 (4)
Part time	52 (47)
Volunteer	6 (5)
Unemployed with experience	45 (41)
Unemployed no experience	5 (4)
Subject	
Accounting & Finance	28 (25)
Advertising & Marketing	9 (8)
Business Studies	7 (6)
Business Computing	14 (13)
Economics, International Development and Politics	7 (6)
Entrepreneurship	3 (3)
Events Management	23 (21)
Management (HRM)	6 (5)
Logistics	1 (1)
Tourism Management	8 (7)
Sports Management	3 (3)
Not reported	1 (1)

Research question one: How do business students orientate to reflection?

Complete responses to the QRT were provided by 110 students. Confirmatory factor analysis was used to evaluate whether it was measuring the constructs that it was supposed to be measuring. A large number of indices have been proposed to measure goodness-of-fit in such analyses. Those that are most commonly reported are the χ^2/df ratio, the comparative fit index (CFI), the root mean square error of approximation (RMSEA) and the goodness-of-fit-index (GFI). Values of χ^2/df less than 2 are taken as indicating acceptable fit. The CFI and the GFI vary between 0 and 1, and values greater than 0.9 are taken as indicating acceptable fit. In the case of the RMSEA, values less than 0.08 are taken as indicating acceptable fit. A model based on four correlated factors was tested using maximum likelihood estimation. A chi-squared test showed a significant disparity between the model and the data, $\chi^2 = 133.02$, df = 98, p = 0.01, which is unsurprising given the large sample size. The χ^2/df ratio was 1.36 and the RMSEA was 0.06, which were both acceptable. However, the CFI was only 0.89, and the GFI was 0.87, indicating only moderate fit.

Exploratory factor analysis was therefore used to explore the constituent structure of the QRT. The parallel analysis of 1,000 random correlation matrices using the program produced by O'Connor (2000) indicated that four factors should be extracted which explained 54.1% of the variance in the data. Accordingly, principal axis factoring was used to extract four factors, and these were then submitted to oblique rotation. Table 2 shows the pattern factor matrix. The four factors corresponded to the four scales of the QRT, except that Item 9 showed a cross-loading on Factor 2 and Item 16 showed a cross-loading on Factor 1. These results suggest that the QRT is broadly adequate for its purpose but that it could be improved by removing two problematic items.

Table 2: Pattern factor matrix

	Factor 1	Factor 2	Factor 3	Factor 4
Habitual action				
Item 1	0.04	-0.03	**0.61**	-0.09
Item 5	-0.01	0.11	**0.62**	-0.08
Item 9	0.11	**-0.34**	**0.44**	0.14
Item 13	0.03	0.00	**0.36**	0.20
Understanding				
Item 2	-0.08	**0.51**	0.25	-0.11
Item 6	0.04	**0.68**	-0.07	0.08
Item 10	0.07	**0.55**	0.01	0.16
Item 14	0.14	**0.54**	-0.11	0.02
Reflection				
Item 3	**0.56**	0.04	-0.09	-0.10
Item 7	**0.77**	0.05	0.02	-0.06
Item 11	**0.47**	0.08	0.14	0.13
Item 15	**0.76**	-0.04	0.08	0.06
Critical reflection				
Item 4	-0.04	0.05	0.10	**0.62**
Item 8	0.14	0.17	-0.10	**0.52**
Item 12	-0.04	-0.04	-0.09	**0.73**
Item 16	**0.36**	-0.12	0.10	**0.30**
Factor intercorrelations				
Factor 1	1.00	0.17	0.14	0.38
Factor 2	0.17	1.00	-0.05	0.02
Factor 3	0.14	-0.05	1.00	0.12
Factor 4	0.38	0.02	0.12	1.00

Note. Loadings greater than 0.30 in absolute magnitude are shown in bold font.

The descriptive statistics show the highest mean rankings for 'Understanding' (M = 4.16, SD = 0.63) and for 'Reflection' (M = 3.93, SD = 0.70). This suggests a higher concentration of orientations to reflection around the middle of the scale with fewer students holding an orientation to 'Critical Reflection' (M = 3.51, SD = 0.80) and the fewest students holding an orientation to 'Habitual Action' (M = 2.92, SD = 0.76).

Research question two: How do business students conceptualize reflection?

This part of the study used a phenomenographic approach to investigate the qualitatively different ways in which these participants understand reflection. Phenomenography seeks to gain a 'second-order perspective' (Marton 1981, p. 177) whereby the goal is to describe 'an aspect of the world as it appears to the individual' (Marton, 1986, p. 33).

The basic unit of measurement in phenomenographic research is a 'conception', or an individual's way of understanding a particular aspect of reality (Sandberg, 1997, p. 203). Marton (1981) explained that conceptions are not considered as separate entities but rather as categories of description 'to be used in facilitating the grasp of concrete cases of human functioning' (p. 177). In other words, categories of description come together within an outcome space as a collection of knowledge. Marton noted that this collection of knowledge is, 'an evolutionary tool in continual development' (p. 177). It is within this space that phenomenography seeks insight into how the categories relate to one another (Marton, 1986).

Analysis of the written responses was done in three stages. The first stage involved scanning all of the responses and identifying any main points, key themes or potential patterns. The second stage of analysis involved several iterations of list-making, which resulted in a long list of ways participants considered reflection. In the third stage, these themes were mapped onto Alden's (2011) framework shown in Figure 1. The participants were classified into one of the seven conceptions without reference to their scores on the QRT.

The participants in the present study did not hold the full range of conceptions as shown in the framework. Of the cases, 17 sets were unclassifiable due to lack or depth of data provided.

Conception 1 (reflection is a trait) and Conception 7 (reflection is transformation) were not identified in the present sample. The remaining participants were distributed as follows: Conception 2, 11 (9.8%); Conception 3, 24 (21.4%); Conception 4, 50 (44.6%); Conception 5, 8 (7.1%); Conception 6, 2 (1.8%). In other words, the majority of participants in this study held conceptions 2-5, with a concentration around conceptions 3 and 4 (reflection as self-evaluation and reflection as a learning tool).

Research question three: Is there a relationship between business students' orientations to and conceptions of reflection?

Table 3 shows the mean scores on the four scales of the QRT obtained by students holding each of the five conceptions identified in Table 2. A multivariate analysis of variance found no sign of any significant difference among the five groups of students in their scale scores, $F = 0.76$, $df = 16, 260$, $p = 0.73$. Univariate analyses found no sign of any difference on the individual scales, $F \leq 1.36$. $df = 4, 88$, $p \geq 0.25$. In short, there was no relationship between the students' orientations to reflection on the QRT and their conceptions of reflection according to the phenomenographic analysis.

Table 3: Mean QRT scores by conceptions of reflection

Conception	Habitual action	Understanding	Reflection	Critical reflection
2	2.89	3.89	4.00	3.43
3	2.74	4.10	3.83	3.52
4	3.04	4.27	3.89	3.45
5	3.09	3.88	4.13	3.56
6	2.75	4.00	4.38	3.88

Note. Scores vary between a minimum of 1 and a maximum of 5.

Discussion

The research instrument appeared to be a good fit for measuring students' orientations to reflection by using Kember et al.'s QRT protocol. As such it is possible to infer from the results of this section of the survey that these students hold mid-range orientations: 'Understanding' and 'Reflection'. Fewer students appeared to hold orientations to reflection at the extremes of the scale (i.e. 'Habitual Action' and 'Critical Reflection'). It was also a good fit for measuring students' conceptions of reflection along the seven possible conceptions identified by Alden. Similarly, the findings from this part of the survey suggested that students hold mid-range conceptions of reflection: 'reflection as self-evaluation' and 'reflection as a learning tool', rather than very basic or more sophisticated notions of reflection.

These findings appear to suggest that undergraduate students see reflection as part of their learning at university. There is little evidence to suggest that students understand reflection as part of a larger social context, and there is no evidence to suggest these students understand reflection as part of a process for personal transformation. This is not entirely surprising when considered alongside distance learners' conceptions of reflection. Findings from Alden (2011) suggested that one's capacity for reflection developed with life experience. The students in the present sample were mostly in their early twenties with some or little work experience.

Although the literature suggests a theoretical relationship between one's conceptions of a phenomenon and their orientation to a phenomenon, the analysis done here does not support this view. There are several possible reasons for this disconnect between knowing and doing. First, the two instruments merged into this particular survey may have not the best measures of 'conceptions' and 'orientations', for the purposes of correlation. Kember et al. based the QRT on Mezirow's model of reflectivity. Alden's conceptions of reflection protocol was derived from the same protocol used to develop the seven categories of description, shown in Figure 1. Despite the two constructs being quite similar in their range of least sophisticated to more sophisticated notions/actions toward reflection, a closer examination of their conceptual relationship may shed light on these findings.

Second, students with different levels of development may interpret questions differently. Severiens and ten Dam (1998) compared students' scores on Vermunt's (1996) Inventory of Learning Styles along Baxter Magolda's (1992) Measure of Epistemological Review. Severiens and ten Dam's study did not find any significant relationship between these two constructs, despite their belief that the two models were conceptually quite similar. Baxter Magolda (1998) proposed that this may be due to students interpreting the questions differently depending on their own developmental position.

Implications for 21st century business education

A fourth research question will be the basis of further empirical research into the use of learners' beliefs about reflection to enhance learning design. However, a few questions for consideration could be posed at this point. First, how can educators and higher education institutions use such insights into students' beliefs about reflection to inform the business curriculum? Is there a call for learning and assessment for learning to be designed in a way that develops more sophisticated conceptions of and orientations to reflection? Second, how can we continue to capture and use data regarding learning styles, conceptions of learning and approaches to learning for the purposes of creating more meaningful learning activities? Should such systems be built into the curriculum and should learning analytics be an integral component of our pedagogy for employability? Third, if such data were to be captured in a systematic way for the purposes of designing learning activities, how can we measure the impact that these data-informed learning activities have on enhancing graduate employability?

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Appendix A: Reflective Learning Questionnaire

Section A

1. Please select the status that best describes your current enrolment as a student of Northampton Business School. (Enrolled full-time, Enrolled part-time)
2. Please select the year in which you are currently enrolled. (1^{st}, 2^{nd}, 3^{rd})
3. Please select the box that best describes you. (Male, Female)
4. Please record your age in the box.
5. Please describe your working status. (Full-time, Part-time, Not now, Voluntary, Never)
6. What is your main subject area?

Section B (from Alden's, 2011 open-ended questionnaire)

1. How do you go about reflecting on your own learning (e.g. what methods or procedures do you use)?
2. What areas of reflective work are difficult for you?
3. When is reflection easy for you?
4. Why are some students more reflective than others?
5. To what extent do you feel reflection is necessary at university?
6. What does 'reflection' mean to you?

Section C (from Kember et al.'s 2000 quantitative study) 5-point Likert scale [refer to original paper for authors' conditions for reusing this protocol]

Habitual Action

1. When I am working on some activities, I can do them without thinking about what I am doing.
5. In this course we do things so many times that I started doing them without thinking about it.
9. As long as I can remember handout material for examinations, I do not have to think too much.
13. If I follow what the lecturer says, I do not have to think too much on this course.

Understanding

2. This course requires us to understand concept s taught by the lecturer.
6. To pass this course you need to understand the content.
10. I need to understand the material taught by the teacher in order to perform practical tasks.
14. In this course you have to continually think about the material you are being taught.

Reflection

3. I sometimes question the way others do something and try to think of a better way.
7. I like to think over what I have been doing and consider alternative ways of doing it.
11. I often reflect on my actions to see whether I could have improved on what I did.
15. I often re-appraise my experience so I can learn from it and improve for my next performance.

Critical Reflection

4. As a result of this course I have changed the way I look at myself.
8. This course has challenged some of my firmly held ideas.
12. As a result of this course I have changed my normal way of doing things.
16. During this course I discovered faults in what I had previously believed to be right.