Development of Abilities Begins from Reflection-for-action

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Abstract
The case is presented for the role of anticipatory reflection in the development of graduate attributes by employed graduates and in the enhancement of core study skills by students. An approach initiated by reflection-for-action and the stimulus of subsequent evidence-based monitoring leading into reflective review has been found feasible and effective. After relevant literature has been considered, recent accounts of the approach and its impact are summarised, leading into a detailed summary of the suggested scheme in a form which is independent of discipline and embodies the assessment of outcomes. Attention is given to the emergence of constructive active experimentation and metacognition by learners during the development process.
Keywords: reflection-for-action, graduate attributes, interdisciplinary skills, professional development, evidence-based, purposeful approach.

Развитие навыков начинается с рефлексии к действию

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Аннотация
В статье описана роль прогностической рефлексии в развитии качеств выпускника у работающих выпускников и развитии основных академических навыков у студентов. Подход, в основе которого лежат рефлексия к действию и доказательный мониторинг, считается рациональным и эффективным. В результате изучения соответствующей литературы обобщается информация о подходе и его влиянии. Автор приводит детальное описание предложенной схемы в форме, которая не зависит от дисциплины, и предусматривает оценку результатов. Особое внимание уделяется формированию у обучающихся умения проведения экспериментов и метапознавательных навыков.
Ключевые слова: рефлексия к действию, качества выпускников, междисциплинарные навыки, профессиональное развитие, доказательный, целенаправленный подход.

> 'Time and again, then, the assumption that reflection is essential to learning is taken as self-sufficient and self-explanatory, apparently derailing further explicit consideration of what it actually *is*.' (Rose, 2016).

Introduction

This paper is specifically concerned with schemes through which a reflective learner sets out purposefully to develop self-chosen personal or professional attributes. Many experiential learning schemes claim to address this aim. Regrettably it has been found that most of these are sadly incomplete and even lack an explicit purpose; they are content to centre their experiential learning on an experience that has occurred for reasons in which the deliberate achievement of particular attributes has not itself featured. This paper records how that weakness has been avoided in schemes promoting the development of graduate attributes by opening with focused reflection-for-action. This is the form of reflection that Van Manen (1991) described as 'anticipatory'. Cowan (2006, p. 52) defined it as "questioning and answering about desired learning which occurs before the action in which it is expected, or hoped, that such learning or development might occur".

In reflective forward thinking, learners should deliberately review impending demands in the light of their past experiences, with a view to identifying where they wish or need to bring about desirable improvement of needed abilities (Hatton & Smith, 1995). This anticipatory reflection should specifically prompt them to pinpoint particular goals for development that they wish to achieve. If they are students, this development will take place in activities inherent to their forthcoming discipline-based studies; if they are in practice, that activity should be providing the experiences on which they will reflect as part of their continuing professional development. In either case, their opening reflection-for-action should lead them directly into deliberate planning for development accompanied by monitoring the ongoing progress and ultimate success of their plan. As will be reported later in this paper, this approach has been shown to be feasible and has been found effective.

Experiential learning generally concludes with a review. This activity and its attendant reflections feature prominently in much of today's education (Brockbank & McGill, 2007) and in professional development practice (Boud, Cohen, & Walker, 1993). The entire practice is often presented there as following the Kolb experiential learning Cycle, as in Figure 1 (Kolb, 1984).

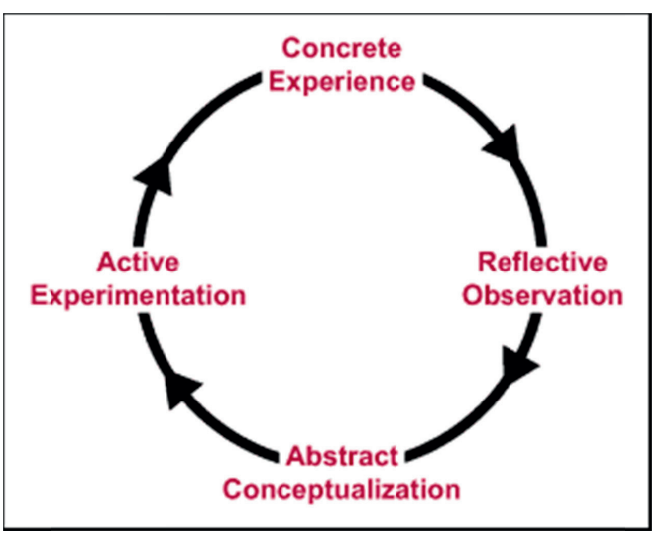

Figure 1: The Experiential Learning Cycle

Unfortunately, most reported schemes, although specified in some detail, usually only follow part of this classical cycle (White, Fook, & Gardner, 2006). It is common practice for learners to merely describe a recent experience and then move quickly through what they call reflection into confident generalisations whose application they expect will enhance their future practice (O'Connell & Dyment, 2011; Marcos, Miguel, & Tilllema, 2009). However, the final element in the Kolb Cycle, which is "active experimentation" or "testing", is generally disregarded. Consequently, the verification or testing of the generalisation is given no attention. The result is that potential for refinement is never considered (Cowan, 2014). Furthermore, since the experience was not chosen and planned purposefully by the learner, the cycle's sequence of 'experience leading to reflection yielding a generalisation' can sit somewhat in isolation from the learner's main purpose. Reflection may well generate interesting generalisations as a consequence of thoughtful experiential learning – but the outcomes may not necessarily have addressed or fulfilled a chosen and relevant purpose.

Although literature on reflective practice contains frequent declarations of reasoned belief in the worth of this activity (White, Fook, & Gardner, 2006), there is little evidence-based evaluation of the impact of reflection on purposeful learning and development. The present paper is therefore devoted to advocating the evaluated merits and potential of a reflective process with a considered, relevant and explicit purpose whose achievement will be evaluated in due course by the learner. Initial reflection-for-action features prominently as a key element in identifying a worthwhile purpose and in planning to achieve it; and reviewing based upon relevant data informs the considered assembling of claims for development upon which relevant but tentative reflection-for-further-action can profitably be exercised.

Enhancement of current processes

There seems considerable scope for addressing known weaknesses in the status quo of reflective development practice. Current schemes which place no stress on reflection-for-action lack a specific purpose for development of a competence which is specified and then pursued purposefully. Consequently, they do not create and use an effective structure to direct and monitor achievement of a carefully chosen aim for development.

The process is often somewhat vague. Reflective learners in many schemes are tellingly reported as being unsure about what is expected of them (Zhu, 2011), and how – precisely – they are expected to go about their reflection (Morton, 2009). Even the meaning of the term may elude them, and their tutors. A respected scholar recently admitted bluntly that 'Reflection is essential but undefined' (Rose, 2016). This absence of a generally agreed definition or description of the central concept (Thompson & Pascal, 2012) had been scathingly underlined by Rose three years earlier when she amplified:

> 'Reflection is fast becoming one of those modular terms deemed by linguist Pörksen (1995, p. abs) to be "plastic words": terms that have become stripped, through overuse, of their precise original meanings; that are used indiscriminately, like Lego blocks, in conjunction with other plastic words; and that therefore actually function to inhibit deep thought.' (Rose, 2013, p. 15).

The starting point in any scheme that sets out to achieve reflective development of graduate attributes should surely be a clear and useful definition of reflection – one that is understood and will be followed by the learners and their teachers. Researching psychologist Moon helpfully defined reflection as 'A form of mental processing with a purpose and/or an anticipated outcome that is applied to relatively complicated

or unstructured ideas for which there is not an obvious solution' (Moon, 1999, p. 4). For the present purpose, Cowan's similar definition (Cowan, 2006, p. 51) has been slightly extended here in a colloquial form that applies to both reflection-for-action, and reflection-on-action:

We reflect when we pose a question which matters to us, for which we do not yet have an answer; and when we then think about what that answer might be, and how we can use it to good effect.

This definition embodies three elements of the activity that can usefully be undertaken by learners who intend to set out in pursuit of the development of chosen graduate attributes. These are:

1. Posing a clearly stated question for their immediate and continuing attention, in order to define the particular purpose of the reflective process.

2. Choosing and framing this focus question in personally valued terms, to ensure motivation. When writing of the value of reflective learning journals, for instance, Moon (2006, p. 4) stipulated that 'there is an overall intention by the writer that learning should be enhanced'.

3. Planning in some detail how the chosen aim may be achieved, and identifying how to gather data that will inform intermediate and final judgements of the progress of this development.

These features can readily be accommodated in an opening workshop facilitating interactive and formative activities without external direction (Francis & Cowan, 2008). From such an autonomous induction, individual learners should each emerge with a personal "shopping list" of one or more abilities or skills on whose enhancement they feel the need to concentrate. This aim should be coupled with tentative plans for the methodology through which they hope to achieve their purpose, coupled with thoughts about the ways in which they may inform their judgements of development.

This paper thus concentrates on self-managed developmental action by reflective learners who are primarily engaged in discipline-based activity in the course of their employment, or who are enrolled on an academic programme as students. In either case, they should identify at the outset one or more abilities or skills that it will be worthwhile for them to acquire or develop, through efforts that are associated with the scholarly or professional aspects of their primary activity. In the author's recent experience, students studying different disciplines and at different stages in their programmes have chosen, for example, to:

- Develop a more cost-effective use of their time in internet searching for needed and useful material;
- Enhance the collaborative efforts of groups of which they are members;
- Minimise the time spent in composing documents to the expected standard
- Prepare and deliver effective oral presentations to various individuals and groups, in a variety of settings;
- Manage their time more effectively;
- Monitor the effectiveness of using a Pomodoro app to minimise the intrusion of social media on their scholarly and professional activities.

Managing development

Having completed their reflection-for-action, the purposeful learner should have planned the collection (and sometimes immediate use) of relevant data from within their forthcoming activities. This data will have been identified for its potential to serve them in their pursuit and evaluation of their progress towards their identified developmental aims. Such data can emerge in discussions with peers of mobile phone recordings,

of presentations or contributions to group work; or from records of use of time and timekeeping; or from analysed records of the frequency of accepting peer suggestions about improving drafts; or by identifying effective contributions to collaborative group work; or from records of useful outcomes derived from engagement in social networks.

It is important to distinguish between this routine management of experiential learning, which is purposeful and planned, and any associated *reflection-in-action* (Cowan, 2006, p. 51). The latter is unplanned, and takes the form of a flash of fortuitous, relevant and valuable insight perceived at the time by a learner, and contributing to their overall learning and development.

Reviewing, and reflection-on-action

Regular summative reviews are a feature of much professional development activity, and of many courses in higher education. Just as in the formulation of any professional judgement (Cowan, 2006, pp. 57-58; Boud, Cohen, & Walker, 1993; Brockbank & McGill, 2007), a sound review will first assemble the available data about performance, compare it with the predetermined criteria, identify and appraise the discrepancies between them, and hence reach an objective judgement. Properly constructed and presented, this analysis will provide a reliable review of evidenced progress. However, it is not a reflective review. Considered *reflection-on-action* (Cowan, 2006, p. 51) is required to make it so. In accordance with our earlier definition, this reflection interrogates the record of activity, considers what can and should be taken from it that will be of value to the learner, and identifies any outstanding matters that merit further attention.

The objective review account provides the comprehensive account which is the basis for perceptive reflection-on-action. Gibbs (1988) stressed the impact on the depth of reflection if the learner takes a short time after compiling a description of an experience to recall how they felt about it – *at the time*. So it can be worthwhile for the reviewer to summarise recall of their feelings in the account of their experience before proceeding to probe in rigorous reflection.

A reflective process, as already suggested, should have a framing question to provide the structure for reflection; it should call for a reflective response yielding fresh and useful answers to that question. The framing question for reflection-on-action should be predetermined (as for any other reflection), as it should structure the reflective activity. Pursuing review of development of a cognitive ability, the question for reflection-on-action could well be: "What have I learned about learning or thought about thinking which should make me more effective in my next experience of this type of task?" (Cowan, 2006, p. 55). For intended development of an interpersonal ability, the prompt question could be: "What have I learned about the means for me to enhance this ability in future, and what scope for further enhancement should I now plan to address?' In accordance with our opening definition, answering such questions calls on the reflective learner to search for answers which are fresh and potentially useful to them.

Implicit within reflection-on-action is the obligation to go beyond the retrospective scrutiny involved in review, and to think forward into a possible future agenda – What should be done next, and how? What possibilities have so far been neglected and unexplored, and should now come on to the learner's agenda? Can and should the learner now identify and address further aims or refinement of them? What scope is there for enhancement of the learner's approach to planning and managing their next development? Such reflection entails self-probing and creative thinking "outside the box". It is metacognitive, calling for thinking truly critically about one's own thinking; de Prinsloo, Slade, and Galpin (2011, p. 28) equated reflection with 'students' awareness

of their own assumptions and questioning of their own management practices' – a demanding metacognitive task'.

Examples of a purposeful approach initiated by reflection-for-action

Cowan (2006) has long advocated and practised an approach to reflection originating from searching reflection-for-action that concentrates purposefully on the development of self-selected abilities. Four such ventures are summarised here. Each is titled by identification of the feature singled out for emphasis in this context. These examples also illuminate the points which will be made thereafter on active experimentation, metacognition and assessment.

(a) Learning journals: In the early 1980's, Cowan launched a seminal development (2006, pp. 52-57). This addressed the need to enhance undergraduates' learning by directly engaging them with the development of relevant interdisciplinary skills, both cognitive and interpersonal. This aim was to feature in a new course for first-year undergraduates, which was allocated three hours of formal class contact time per week. The first week of that programme was devoted to explaining the rationale for this course, and to describing the weekly methodology that students were expected to follow.

Each subsequent week would focus on a lecturer-selected skill area such as problem-solving or essay-writing with which most students present were likely to have felt need of development. A 2-hour Tuesday afternoon session of facilitated and interactive reflection-for-action in groups led to specification of needs for development within the chosen general area and initial collaborative discussion about how these might be tackled. As the activity closed, the groups tidied up the summaries of their thinking so far on flipchart sheets which remained as wallpaper to provide an agenda for the lecturers. In a 1-hour input on the following morning, Cowan and his colleague had undertaken to present responses to the reflection-on-action featured in the wallpaper, to facilitate further individual progress following group discussion. Thereafter students followed their routine class timetable, but were charged in the next three days to compile a learning journal using stream of consciousness writing - which was at that time to be in handwriting, and not word-processed as nowadays (Cowan, 2009). They reflectively considered what they could take from this week's activity 'which would make them more effective next week than they had been last week'. The journals were submitted on the Friday afternoon for facilitative comment by one or other of the lecturers. The annotated journals were returned to the students' pigeonholes on the Monday morning, when a crowd of eager writers waited to collect and peruse them.

At the end of each term, students read through their journals, and identified (often to their surprise) the impact of reflective practice on the enhancement of the skills concerned. They each prepared for assessment an account of the year's developments. Eminent educationist Gibbs invited himself to visit the department during the following year, while he was preparing his authoritative text (Gibbs, 1992). He selected his own interviewees and searchingly questioned them regarding their experiences of the reflective part of the first-year programme. He identified tangible impact, and concurred with the learners who attributed this outcome to their keeping of reflective learning journals, following the foci provided by their initial reflections-for-action.

(b) Evidence-based claims: A professional body offered recognition of successful self-managed efforts to develop personal and professional abilities during study on a one-year postgraduate course in a Business School, (Francis & Cowan, 2008). A 3-hour introductory workshop outlined the scheme and introduced students to its features and demands which were outwith their course programme. Individuals went on to identify an assortment of aims for personal and professional generic development, appreciating

that they should formulate plans for that development and specify criteria for their judgement of it. Conscious of the need to satisfy the external body of the claims that would be made, emphasis was placed by tutors and students on the gathering and analysis during the year of informative data. Regular meetings of tutors with their small learning communities centred on offering constructive peer suggestions to progress reported developments and their ultimate recognition. The emphasis in these facilitative interactions was more on how development should be further promoted and how the evidence was being ingathered, rather than on the judgements it indicated. Final versions of evidenced claims were constructively peer-audited. The learners' claims and self-judgements of their capability to exercise stewardship of self-development were accepted by the professional body, which encouragingly waived their right to arrange their own assessments.

(c) Active-experimentation: A scheme was devised to support the skills development of UK Open University students who were scattered over an extensive and sparsely populated rural area (Cowan, 2006, pp. 12-15). Resource limitations only permitted an evening activity (with a break) once every five or six weeks. Those attending (n= 25 approximately) were studying at various levels in a range of different subject areas. Their reflection-for-action began in the *second* hour of an evening group meeting. Sub-groups of assorted student members then identified, conflated and prioritised a list of individual generic needs for attention under the chosen heading for this meeting. They exchanged previous experiences of engaging with this challenge – either successfully or with frustration - and devised individual plans for further attention, which they would each test out in the forthcoming 4-5 weeks of self-managed study.

In the first half of the following evening meeting, delayed reflection-on-action occurred. Students reported how well their plans had gone, how and why they had decided over time to amend them, and so advised each other about what to carry forward into their further studying. The continued attendance of mostly far-travelled students witnessed to their judgement of the value of this activity.

Formal student feedback endorsed the effectiveness of the methodology in generating worthwhile and tangible enhancement of abilities needed to engage with the assorted demands of their various courses (Cowan & George, 1989).

(d) Urgently needed development of abilities: Second-year undergraduate students of engineering suddenly encountered the (to them) unfamiliar demands of a problem-based learning course where creativity, collaborative group working, and assorted and frequent oral presentations featured very demandingly (Quilligan, Phillips, & Cosgrove, 2017). Most course tasks were completely open-ended; learning was facilitated, not taught; and there was no direction by the lecturers. Most students floundered in the initial weeks, and felt an urgent need to address the development of key skills which they were deliberately being left to self-manage. In this context, they were expected to cope with the development of essential core abilities, to monitor progress and to prepare evidence-based claims of their self-managed progress. They could ask an external critical friend for formative comments on their draft plans and on the self-evaluations that were called for after seven weeks. This was expected to contribute what Rose (2016) classified as 'metacognitive activities such as self-assessment and monitoring'.

Survival, let alone progress, called for extensive and creative learner engagement in constructive self-management and self-monitoring. Extracts from some highly persuasive reflective reviews were conflated and speedily accepted by enthusiastic reviewers for publication in a reputable journal (Cowan, 2020), In this paper, students convincingly testified to the role of self-managed reflective development of their urgently needed core abilities.

Assessment

Eisner (1982) argued that we learn directly from the process of representing our learning, as in Example (c). He cautioned that such assessment could feature as an instrument that unnecessarily shapes that representation and learning, since it drives the learning that precedes it (Ramsden, 1992). Ramsden (1992) pointed out that the chosen scheme for assessment will drive the learning that precedes it, by featuring as the hidden curriculum (Snyder, 1971; Gibbs & Simpson, 2004). This impact on learning of declared or inferred assessment originates in the findings of Miller and Parlett (1974). They classified students as actively cue-seeking, cue-conscious or cue-deaf in their awareness (in the first two cases) of the importance of the hidden curriculum. The onus on programme designers in our present context is thus to devise and apply an assessment scheme which promotes, recognises and rewards the development of generic abilities - without perverting that process.

Moon (Moon, 2004, p. 149) admitted frankly that assessment is an issue of considerable concern in the area of reflective and experiential learning. Bolton (Bolton, 2005, p. 132) opened her consideration of assessment of development by describing it as a perennial problem. For our present purpose, the challenges are lessened. For, whatever the complications, most students and teachers associated with schemes for the reflective development of abilities will expect assessment of some sort to feature in the programme. It is fair and important for these reflective learners to know in advance how they are to be assessed and by whom, and on what assessment criteria this judgement will be based.

Some maintain staunchly that the reflection itself should not be directly assessed as a distinct element in the process (Stewart & Richardson, 2000). Although Moon (1999, p. 42), suggested that reflective journals could feature as a mode of assessment, she immediately cautioned that where they are so used, the open-ness of the writers is potentially under threat for they may write according to what they think the assessors want (p. 79) as they anticipate and respond to the hidden curriculum. From a similar standpoint, Boud (1998) bluntly considered it inappropriate to assess reflection, since assessment would destroy "raw reflection" – killing off the spontaneity and the individuality of the process. Moon (1999, p. 92) pointedly posed the telling rhetorical question: "How can you mark a person 's own self-development? For, as Dillon (1983) pointed out, the prospect of being marked can create a barrier or obstacle to a reflective person finding his or her own voice.

Moon (2004, p. 15) helpfully summarised the various purposes that assessment of reflection may be chosen to address. In the present context, the choice is simplified, for the purpose of all parties is the development of graduate attributes. However, a question remains: is it the development itself or the process of achieving development that should be assessed? – or is it perhaps both? Consequently an early and important decision to be made by programme designers is whether their concern is for the process as in Example (b) or the product of learning as in Example (a), or both as in Example (d) (Moon, 2004, p. 155) Brockbank and McGill (2007, p. 200) unequivocally took it for granted that that the assessment of reflective practice, whether formative or summative, would lead to a judgement about the outcome, which they defined as the quality of the learning that emerges – pointing out that this will be embedded in the traditions of a particular discipline. These educationists suggested an assessment form which in effect structures a critical review of claimed and evidenced learning, pointing out that "There is no need for the evidence to refer to content. The process is evidenced here, and the product is context and person specific" (Brockbank & McGill, 2007, p. 201).

This paper is concerned with the contribution of structured reflection to the development of graduate attributes. That is surely the outcome that should be assessed. Moon (2004, p. 154) pertinently advised that, when the outcome of reflective development

is, as here, an improved ability to do something, then the assessment task can simply and transparently ask learners to demonstrate their engagement in this activity or provide evidence of what they claim to have been able to do, which points towards self-assessment as in Example (b). She argued that the real chances of useful learning come when the learner is involved in the development of some or all of the assessment criteria (Race, 1991) and when peer or self-assessment is used. She also advocated the contribution to development arising from receiving, and giving, peer feedback which the learners should reflectively (and hopefully critically) review (Moon, 1999, p. 212).

Samuels and Betts (2007) went further and suggested using self-assessment to deepen reflection. Boyd and Cowan (1986) described an innovative self-directed undergraduate programme in which learners managed their own development of abilities relevant to structural engineering design. This was ultimately self-assessed, after regular and formative peer assessment had made a noteworthy contribution to the formulation of self-judgements. Such self-assessment can also incorporate reflection-on-reflection, or metacognition (Samuels & Betts, 2007).

Moon pointed out that marking the raw reflective writing is like marking a learner's lecture notes, since reflections follow the learner's immediate thoughts and concerns, in written form. So she advised asking learners to write an evaluative report that draws upon their reflective writing (Moon, 2004, p. 156). Hatton and Smith (1995) concluded that the best evidence of reflection is in such written accounts, following the typology provided by Moon. This arrangement for assessment is compatible with Winter's suggestion of patchwork text assessment (Winter, 112-122) with the learner creatively discovering and presenting links between reflective fragments that may originally have seemed to be separate (Moon, 1999, p. 81). This is an enrichment of the process described by Cowan and Stroud as composting (2016).

Active experimentation and metacognition

Dewey called the final stage in his experiential cycle "testing" (Dewey, 1933), and stressed its importance. Nevertheless, many reports of reflective practice suggest that the emerging conclusions or generalisations are not tested. Rather are they simply treated as proven and confidently put to use without further consideration (Cowan, 2014). However, scrutiny of the four examples cited earlier reveals the existence of what Cowan described as mini-Kolbian loops (Cowan, 2006, pp. 55-57), occurring during the stages of the full experiential cycle. These characteristically can productively feature vigorous active experimentation, and consequent refinement of abilities and their plan for development of them.

The weekly learning journals in Example (a) were replete in accounts of the testing, and the refinement, of recently formulated plans – even in the first two days of application of the emerging generalisation. The employed graduates in Example (b), striving to assemble evidence of the effectiveness of their self-management of development, often found early collections of data unconvincing and occasion for iterative refinement of their initial plans. The isolated open learning students in Example (c) often reported to peers that the draft plans with which they had left the group workshop were understandably incomplete or even ineffective. So they refined their plan and tested the revision, having perhaps several such iterative refinements to report by the time the group reconvened. Similarly, the undergraduates in Example (d), who were striving to cope with the fresh demands of problem-based learning, had no sooner tested out a plan for enhancement than they found need and potential for further creative improvement of their methodology in pursuit of that particular development.

Active experimentation or testing thus featured frequently in the midst of all these accounts. Significantly, it occurred during the progress of the ongoing experiences as well as in furthering the closing review. Conscious consideration of the need for testing or further refinement featured in most perceptive reviews and their outcomes had considerable impact on the progress of the learners' planning for ongoing development. As van den Boom, Paas, van Merriënboer, and van Gog (2004, pp. 553-554) pointed out, reflection can occur 'as a strategy or skill' that functions as 'the bridge between metacognitive knowledge and metacognitive control (self-regulation)'. An early example of sustained metacogntive activity was encountered by Cowan (2006, pp. 69-70) in the self-revelatory account given by a first-year student in Example (a). He discovered Pask's metacognition, *and* meta-metacognition (Pask, 1975), having never heard of that researcher or his writings.

Several of the students in Example (d) reported having found it profitable to give constructive thought to the significance of engaging with their feelings, rather than to their thinking or to their practice, when they were responding to challenges about which they felt distinctly apprehensive. One commented "Often when it comes to needing to think creatively, it feels like trying to squeeze water out of a turnip" – and immediately gave analytical thought to developing their methodology for dealing with such an impasse.

Summary of the suggested approach

From the earlier literature review and the examples presented above, it now appears valid to recommend in some detail an approach that has been found effective in reflective development of graduate attributes, whether face-to-face or online.

If possible, the course team should arrange for the purposeful development of graduate abilities to feature as a separate programme activity, with separate assessment or recognition. In second and later years, it can be useful to enlist former students on the programme to give an account of its value to them. The programme team, with or without that endorsement, should arrange an induction to explain the requirements and methodology of the abilities programme in general terms, and to answer questions of clarification. In this interactive activity, facilitators should prompt learners to anticipate the demands that will be made of them in their academic programme (if they are students), or for their continuing professional development (if they are already in employment). Groups should brainstorm a composite list of possibilities to consider, with some of which each learner should come to identify as they draft their priorities.

The team should offer an input suggesting tersely and in general terms a selection of ways in which learners can promote the development of abilities and can monitor their progress while so doing. Adequate time should then be allocated to enable individual learners to prepare draft outlines of their personal plans, specifying the ability or abilities they wish to develop, the steps they will take to promote development, and how they will identify and record progress and achievement. Learners should then circulate their draft plans to peers, who are encouraged to append constructive suggestions for improvement. Learners should thus leave the induction prepared to refine their draft plans and enter them in their ePortfolios.

Thereafter the course team should arrange for small group encounters at roughly six-week intervals. These can be face-to-face or in the virtual learning environment. Individuals will report their progress and their difficulties, and offer each other constructive suggestions for attention in the time ahead.

When the occasion for submitting a final review and accompanying reflection is impending, the team should provide a concise input, outlining with suggested criteria the main elements of a reasonably evidenced review, of a claim for development and

of a reflection on the handling of the experience. Having allowed time for this to be assimilated, and for draft review claims to be assembled, arrangements should be made for small groups to constructively and interactively audit each other's reviews and claims for submission. Whether or not this is then externally assessed can be decided by the programme team.

Conclusion

A focussed review has been presented of the literature reporting reflective preparation for development of study skills and of graduate attributes. The potential of the seldom-mentioned reflection-for-action has been identified from that work and an approach building on this foundation and leading to evidence-based review has been outlined. Examples in which much of this approach has been followed in several distinct fields and at differing levels have been briefly described and reviewed. There seem strong grounds for adopting this approach for these purposes.

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