Applying adaptive change processes and supports to the learning classroom

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The aim of this paper is to describe the application of the adaptive change model (ACM) to the school context, and provide rubrics for the use the model to evaluate student or teacher preparedness for change, and enhance the decision-making process at the school community, classroom, and individual student levels. Transformational learning is a philosophy that conceptualises change as central in the teaching and learning dynamic and provides the foundation for understanding how the ACM is applied to teaching and learning. The second aim of this paper is to propose how the eight factors of the ACM provide a template for interventions in schools. The eight factors (five processes and three supports) of the model define ways of prompting change, the responsiveness to curriculum materials and learning, and the processes that facilitate change and learning. Two rubrics to forward-map the change process towards learning based on this model are provided for future practice and research. The model provides a means of operationalising and monitoring progress for individual students from the teachers' and eventually the students' perspectives.

Introduction

In this paper, we argue for the application of the adaptive change model (ACM) in schools to assist in defining and articulating the educational and learning possibilities of the individual student and groups of students. The ACM is a *negative emotions* model of change that was developed with the intention of encompassing a range of existing theories from the social sciences, education, and psychology, while responding to criticisms of previous transtheoretical models (Bowles, 2006; 2010). The ACM has five sequential factors that describe how an individual or community might manage change, usually sequentially moving from one stage to the next. An additional set of three factors support the change process and facilitate progress through the five factors. The general aim of the present paper is to provide an overarching framework to alert educators to the relevance of change models in education settings and propose a model of change that provides a useful framework for supporting the change process. It is particularly relevant for preservice teachers, early career teachers, and education staff engaged in facilitating change in new curriculum areas and contexts. Two rubrics, based on the ACM model were developed for teachers to use to make change more apparent as a foundation concept in learning.

The centrality of change and transformation to learning

The theory of transformational learning (TTL) provides the foundation for the educational and learning experiences for students. As noted by Mezirow (1991, p.167), transformation in educational settings is:

> the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about our world; changing these structures of habitual expectation to make possible a more inclusive, discriminating, and integrating perspective; and finally, making choices or otherwise acting upon these new understandings.

Consistent with this view, Jones (2009) and others have argued for the inclusion of aspects of efficacy, the cognitive processes associated with thinking and acting, as well as building recurring processes of reflection to enhance understanding for the student (McGonigal, 2005). We argue for the importance of the student as an effective and efficient agent in their transformative education, guided by their teacher. In line with Mezirow's (1991) definition of transformative learning, we consider the centrality of the dynamic space of learning between the student, and the teacher, and the school as integral in the transformative processes that influence students' learning.

There have previously been a range of models of change and transformation applied in education. For example, Mile's *Triple I Model* (Miles, 1987; Scull & Johnson, 2000) has been used to monitor and evaluate change in schools, mapping processes supporting initiation, through to implementation and the institutionalisation of school reform efforts. Fullan's (2006) model of change has been influential in education and is based on seven principles: (1) a focus on motivation; (2) capacity building, with a focus on results; (3) learning in context; (4) changing context; (5) a bias for reflective action; (6) tri-level engagement (x, y, or x and y); and (7) persistence and flexibility while remaining on task. There are a number of models advancing the use of individual factors or combinations of factors, such as the seven conceptions of learning (Bowles & Hattie, 2016). By contrast, the ACM has processes that are ideally sequenced and identifies support factors that consistently assist change. The ACM shares similarities with aspects of Fullan's model and was informed by theoretical explanations such as the theory of reasoned action (Ajzen, 1991), intentional actions (Brandstätter, Lengfelder & Gollwitzer, 2001), and theories of self-regulation (Carver & Scheier, 1998; Dinsmore, Alexander & Loughlin, 2008).

Less complex and non-sequential explanations of change also share commonalities with the ACM, including the theory of self-efficacy (Bandura, 1997) and motivated interviewing (Miller & Rollnick, 2002). Importantly, all of these models are valid and well-researched. The ACM contributes to this field of research and was developed with the intention of being a summary of key factors derived from the research literature, such as the above mentioned models, and based on factors relevant to a range of settings (Bowles, 2001). As a result, the ACM is transtheoretical, valid and a summary of other change models (Bowles, 2006; Bowles & Hattie, 2013). The model has been applied to a wide range of applications, and research has demonstrated its validity and psychometric properties as a sound model of change (Bowles, 2006), in clinical and career settings for adults (Bowles, 2010; 2012), defining readiness to change in adults (Bowles & Hattie, 2013), to assist development of resilience in early career teachers (Bowles & Arnup, 2016), and as a framework for career selection (Bowles & Brindle, 2017). When applied appropriately, the ACM promotes growth, volitional learning and behaviour change (Bowles & Hattie, 2013), and provides a means of reducing complex tasks to a series of ordered steps that facilitate change in educational settings.

For the student, change is organised and managed at multiple levels, including the individual, school, family, and community, with each providing different supports for the anticipated change (Berger, 2012), and each focusing to varying degrees on different time defined activities, for example approaches to teaching, curriculum innovation, classroom and school organisational structures, and yearly transitions. Despite the time-sequenced planning and pervasive nature and constancy of change in schools, school staff rarely apply an articulated model to explain how change occurs to facilitate learning. However, Hattie claimed that making student learning visible means that teachers evidence for themselves the effectiveness of their anticipated change in learning, and facilitates students to change and become their own teachers (Hattie, 2012). There is also evidence that effective learning occurs through effective teacher feedback, instructional quality, and students' practices that take account of their prior cognitive ability ("can I [the student] understand this?") and disposition to learn (Hattie, 2003). The ACM is a model and template that allows teachers to enhance opportunities for learning by providing a feed forward process in conjunction with students to conscientiously construct learning informed by the concept of managing change. The model also incorporates the possibility of feedback and adjusting to ensure that learning is successful.

The structure of the adaptive change model

The ACM is comprised of two sets of factors: five process factors and three support factors. The process factors are conceptualised as (a) openness to opportunity, (b) visualisation, (c) planning, (d) action, and (e) closure (Bowles, 2006; 2010). The process factors can be divided into the preparatory factors of openness to opportunity, visualisation, and planning, which foreground the production factors, where something is created in the action and closure stages. The three support factors facilitate change at each stage of change and include (a) social support, (b) (management of) negative emotions, and (c) (the individual's or group's) inner drive. Figure 1 is a graphical representation of how the factors of the ACM function to bring about change.

The process factors of change

In the school setting, the five process factors are applied changes associated with learning, for example in response to a curriculum innovation, changes in performance from year to year, or more specifically new practice that matches the student's zone of proximal development well and affords the learning of rich vocabulary when reading. It may be the introduction of a new topic by a teacher. It may be the organisation around providing the student with supplementary material to extend student competence. After the initial interruption to the steady state, the student and/or the class strategies for change using a range of processes, which most productively would follow the five stages described below (Bowles, 2006).

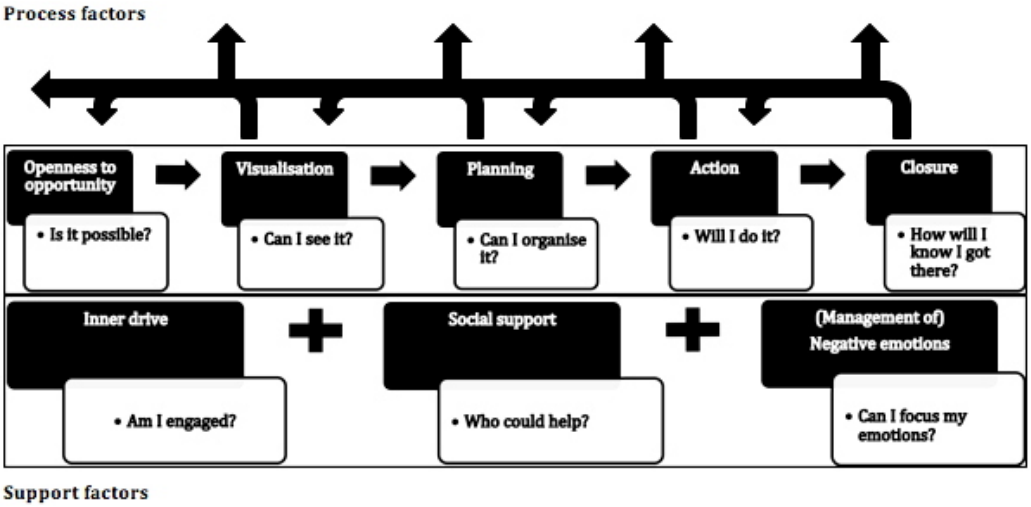

Figure 1: The transition through the five processes of change with three aspects of support to learn a new skill or concept

Openness to opportunity

This is associated with a mindset that is aware of the possibilities of a neutral or positive outcome, or consequences in the future and the benefits of change. It is anticipatory and positive and foresees engaging. Designing, generating, and creating opportunities for students to learn and engage in learning is a central task of teaching (Boykin & Noguera, 2011). It requires loosely articulating the goal and then asking what opportunities are available to get to the goal? Teaching is made easier when students are open to the possibility and prospects that may arise through both the planned activity and coincidental and unplanned learning. Fostering openness to opportunity diminishes resistance and helps with building supportive relationships, which are initial steps in the change process (McGonigal, 2005).

Visualisation

Visualisation is the second stage of the model, and it is about seeing with the mind's eye what might occur in future. In this stage, the individual imagines and represents aspects of the change being created. Visualisation may be free association or imagining a set of sequenced images, dreaming about possibilities, daydreaming, imagining a flow chart or concept map, cartooning the process and actions, or brainstorming a list, or creating a picture or preliminary notes designed to elicit thoughts of the purpose and context of the visualisation (Bridges, 1995; Harvard Business School, 1991; Huszczo, 1996; Miraglia, 1994; Ikuta & Gotoh, 2014, Robbins, Waters-Marsh, Cacioppe & Millett, 1994). Visualisation allows the individual to consider various scenarios to generate pathways or part pathways to one or more known or unknown endpoints of visual media, including sketches, drawings, and representations of mental images and ideas that are first drafts of a plan, school vision and mission statement in order to provide the content of plans for student learning.

Planning

Planning follows and is defined as making ready a means to ensure that the organisation and individuals are prepared to take action. In the simplest sense, it is an individual and collective act of self-regulation (Zimmerman, 2000), and includes any strategies that help students identify their current assumptions and their thinking and explanation about the process and task requirements (McGonigal, 2005). Planning flows into concretising the procedure by reviewing the opportunities and visualisations, and selecting and ordering the procedure on which to take action. They may also have an evaluative component such as lists of pros and cons, or SWOT analyses (strengths, weaknesses, opportunities, and threats). There may be rehearsals or practice of possible actions. Such processes assist in identifying and ordering such information in a concrete manner. Planning relates to an intention to implement some form of change (in this instance, learning and such direct intention can be a critical determinants of consequential action) (Gollwitzer, 1999). "Planning can be done in many ways, but the most powerful is when teachers work together to develop plans, develop common understandings of what is worth teaching, collaborate on understanding their beliefs of challenge and progress, and work together to evaluate the impact of the planning on student outcomes" (Hattie, 2012, p. 37). At the individual level, internalising self-regulatory processes such as planning are also facilitative of learning (Zimmerman, 2000). Plans are visualisations drawing on metacognitive processes that are selected to provide a final organiser: physical plans, maps, budgets and describing what is necessary to bring about the change; the learning; exercising; training required to ensure the goal is achieved. Planning in the school setting that identifies how to achieve teacher-set goals, and how these are combined with students' intentions to plan micro tasks and set their own goals, and align them to curriculum goals, are far more likely to be achieved.

Action

Action is defined as creating and executing the designed action. If planning has been thorough and brought confidence and certainty informed by the two previous change stages, action is a natural progression. Optimally, the individual will operate as an agent of change simply by enacting the decisions that they have been planned and mentally prepared (Bridges, 1995; Nowinski & Baker, 1992; Watson & Tharp, 2007) in conjunction with curriculum plans set by the staff. Without adequate preparation, the action-taking may be impulsive or throw up impediments or problems that have not been anticipated. This is not to say that actively altering the *status quo* is comfortable or easy. Further, the change process admits the importance of tapping into the student's interest and natural ability, making it simultaneously effortful, easy and performance-based and developing understanding of the topic and student's competencies (Bowles & Hattie, 2016). Some change/learning processes require extensive practice and acceptance of the requirement for conscientious effort over time, while acknowledging little may be achieved. Action is the outcome of careful conception to scaffold and ensure success and positive outcomes of change. In the event that the planned activity is not achievable, there are three alternatives: stop the task completely and seek alternative processes, e.g. choose another subject; instrument or sport in which to engage (these are the up-pointing arrows in Figure 1). Drop-back to a previous part of the process (the left and down sweeping

arrows) and revise what was visualised or planned or considered an opportunity, or begin another plan with the same end in mind (the left sweeping arrow).

Closure
This is the fifth stage in the sequence, and it is indicated by some outcome, creation, or product and the finishing of the planned activity (Bridges, 1991; Cochran & Laub, 1994; Miller, Yahne & Rhodes, 1990). The definition of closure ranges from symbolic through to concrete, whereby completing the task brings at least some satisfaction and may lead to celebration before making way for another potential change experience. The finishing of the task is usually associated with meeting some standard or achieving and completing a pre-planned or alternate goal, defined at the beginning of the process. If it marks completion, it may mean an end of an activity that simultaneously means the possibility of beginning something new, as happens when students leave school to take on university or full-time work. Many change processes falter due to too little attention being paid to the process of closure, that is, completing and finishing of a process of action before another is begun (Bridges, 1991).

The support factors of change

Three support factors facilitate the change process. These include social support, inner drive, and negative emotions, as outlined in the following descriptions.

Social support
This is assistance provided by those around us, often in collaborative learning arrangements. Teachers are adaptive learning experts (Hattie, 2012) and adaptive change agents (Bowles, 2006, 2010) who collaborate to effect and model change, but so too are fellow students, tutors and parents who assist learning. Further, nearly every role in schools is based on some form of interrelated social support. The principal relies on staff, and the parents rely on the principal and staff to fulfil relatively undefined roles of support. Social support is critically important, especially for the stages of action and closure in relation to classroom implementation (Kramer, 1990). Ideally, support is consistent, timely, practical, age appropriate, and is structured as an activity appropriate for the student or staff member's entry behaviour. It should be focused on action and tasks (Scull & Johnson, 2000) to bring about lasting change and learning, to promote eventual independence, and autonomy (Harvard Business School, 1991; Prochaska, 2006; Prochaska, Velicer, DiClemente & Fava, 1988).

Inner drive
This is the central motivating force of the healthy individual that innately gives energy, purpose, and the force behind all elements of the adaptive change process. It is observed in the level of intention and relaxedness associated with those meeting challenges associated with changing (Kramer, 1990). Moderate levels of persistent and conscientious effort are ideal — too little load and the individual loses will and attention, and too much stress and the individual will tire and become exhausted prematurely (Hancock & Szalma, 2008; Johnson & Scull, 1999; Kocalevent, Hinz, Brähler & Klapp, 2011). It is a necessary

component of leadership, and so principals and teachers require motivation in themselves and the ability to encourage drive and positivity into the school community.

Negative emotions

Negative emotions are the felt emotions relevant to change (Hultman, 1998; Schiffman, 1971), and can include feelings of confusion, resentment, guilt, fear, anxiety, despair, and feeling out of control (Bowles, 2006). Positive emotions were not found to prompt change (Bowles, 2001). Managing the negative emotions before, during, and after change is critical. Unattended negative emotions may result in a diminishment of the self and incapacity to function, resulting in internalised or externalised conflict. It can also lead to self-protection and to not engaging in activities, not investing effort, and not valuing schooling. Internalising these emotions generates psychological imbalances that may progress into deeper anxiety and defensive behaviours (Illeris, 2004). Mismanaged negative emotions may act to stall the change process and the progress of the individual (Adams, Hayes & Hopson, 1976) generating, learned helplessness, procrastination and self-defeating behaviour. Moderate levels of negative emotions, manifested as generalised dissatisfaction and discontent, can help to facilitate change (Bowles, 2010), although low levels of negative emotions are optimal (Bowles & Hattie, 2013) and the continual dissipation of negative emotion as the process of change occurs and recurs. Teaching children to manage and self-regulate their negative emotions is an important aspect of teaching.

Ideally the change process follows an ordered pattern, as described in the model, and each stage is facilitated by the support factors of social support, inner drive, and negative emotions. Each process and support factor is different as illustrated by the key question linked to each. The greater the levels of social support and inner drive, and the better the management of negative emotions, the easier and more efficient the change will be, whether it is managing staff or budgets, organising the curriculum, or enacting an individual learning plan. As shown in Figure 1, the most efficient transition is from one stage of change to the next with influence from the support factors at each stage. There is some overlap in the transition where one stage may continue and be adjusted as the next stage begins. Opportunities may still be investigated even up to the beginning of action. At each stage, the progress may falter, in which case the change agent will ideally default to, and be led by the teacher to the last or earlier stage and revise the process (the far left sweeping arrow indicating a new beginning; left and down arrows a return to an earlier stage of preparation). Alternatively, it is possible that the person seeking to change will simply remove themselves from the process psychologically and/or physically, accept failure, and regress or relapse (upsweeping arrows indicate leaving the process and activity). Moving through the processes of change and applying the three support factors to each stage of the process requires discipline, organisation, and time. This is a contrast to experiences of change that are commonly used that are easier and quicker, possibly operated impulsively or rushed into with a reliance on two or three factors of change. Such decisions often result in adverse outcomes as they do not follow a sufficiently comprehensive process that is suitable to many settings. Ideally the process factors are supported by the three support factors, as illustrated.

The adaptive change rubric

As stated earlier, the second aim in this paper was to operationalise the link between the ecological system accommodating change and the ACM as a model of change. To do so, two rubrics have been developed.

A rubric is a formative assessment document that sets out graduated levels of achievement of skills or competencies associated with selected performance indicators (Griffin, Gillis & Calvitto, 2007; Griffin, 2009; Kinne, Hasenbank & Coffey, 2014). Typically, rubrics are used in educational settings and provide teachers with the opportunity to make consistent judgements on graduated performance criteria, to provide students with the opportunity for understanding the competencies achieved and yet to be met (Kinne et al., 2014; Pintrich, 2003). McMillan (2007) claimed that rubrics provide a motivational force because they have an authenticity, provide specific feedback, and incorporate goals associated with performance criteria. Rubrics have also been adopted for use in vocational education (Griffin et al., 2007), suggesting that they are applicable in more than primary and secondary school settings.

The first rubric (Table 1) reflects traditional use and is applied to criterion and evidence-based indicators associated with whether the student has the competencies to relate change processes necessary for learning. The second rubric (Table 2) evaluates the school's potential to scaffold the child's learning.

Table 1: Rubric of the adaptive change model (ACM) to facilitate learning (Student)

	Definition	Level 1	Level 2 (combined with level 1)	Level 3 (combined with level 2)	Level 4 (combined with level 3)
Openness to opportunity	The student is open to the opportunity of change.	The student recognises the need for change.	The student is aware of the possibilities and understands the focussed attention that the task requires.	The student values and wants to engage in the activity. The student approaches the activity as if experimenting with possibilities to bring about the change.	The student appreciates the potential of the change and understands how this activity is integrated with other tasks to impact positively on learning now and in the future.
Visualisation	The student can see with their mind's eye what might occur in the future.	The student can recall similar tasks and activities effectively before at school or outside school.	The student can imagine and represent or describe the products at the end of the task.	The student can imagine and represent the sequence of tasks and materials that need to be assembled to complete their activity.	The student can imagine and represent how they are approaching the task, the materials, process, and the outcomes with some accuracy and efficiency.

Planning	The student is able to plan the steps required to achieve their aim.	The student has collaboratively planned such an activity before or a similar task from which they can generalise.	The student can develop schemas and plan processes (drawings, lists, charts, written plans, checklist, concept map), and the sequence of events to achieve the goal(s) of the task.	The student can explain and justify the selection of at least one appropriate method (including tools and equipment needed) to achieve the task that is set.	The student can indicate the sequence and order of the assembly of the parts and processes to ensure there is an outcome in a given time frame.
Action	The student can take action to achieve proficiency.	The student has been able to do similar tasks before as a basis for new activities.	The student can perform all the steps in stages and enact the task.	The student practises the task in different settings and circumstances in an attentive manner to bring about improvement.	The student performs the task proficiently at will and in different contexts with different materials.
Closure	The student completes and closes off the activity.	The student has finished and closed off similar tasks before, and has awareness of completion.	The student comprehends what the end product looks like and the pathways to achieve the end product.	The student can finish the task adequately and realistically and celebrate their achievements.	The student integrates the task and specific aspects of it with other prior learning to see patterns and processes which may then be applied in future.
Social support	The student learns from and benefit from the assistance of others appropriately.	The student shows that they have been able to learn from the assistance of others including teaching staff and students in the past.	The student accepts and recognises the need for guidance and support when they are uncertain or confused or need to 'talk something out' to understand it.	The student seeks assistance and acts on feedback throughout the change process.	The student is able to mediate levels of social support, according to need, at different stages throughout the change process.

Inner drive	The student has an inner drive and motivation to learn.	The student generally manages to maintain a focus and motivation for learning tasks.	The student remains focused when the task increases in complexity without losing motivation or sight of the end goal.	The student maintains high levels of inner drive at the production and habituation stage of change and recognises the purpose of practice in improving understanding and/or skills.	The student is motivated to persist when experimenting with ways of adapting and integrating the task and accepts the necessity for feedback of various kinds and the necessary to fail on approach to success.
Manage-ment of negative emotions	The student manages their negative emotions.	The student has demonstrated that they can manage their negative emotions effectively in the past.	The student generally manages inhibiting (e.g., boredom) and excitation (e.g., frustration) emotions and remains engage in the activity.	The student manages the negative emotions at points of difficulty and/or when receiving feedback and when the process is frustrating or fatiguing but remains focused.	The student manages their negative emotions to habituate and complete the task with finesse and high levels of competence.

Note: this rubric is general and may be made task specific with some adjustment.

Table 1 presents the aspects of the ACM have been transformed into a rubric suitable for establishing the readiness to change of the individual. Similar to the response to intervention approach, the student least likely to change is the student most needful of special, more individualised attention (Fox, Carta, Strain, Dunlap & Hemmeter, 2010; Hughes & Dexter, 2011).

A rubric was considered the best analytic tool for supporting how the student conceptualised how to go about the learning/change process. The tool provides scaled levels based on criteria to help scaffold an individual's performance (Allen & Tanner, 2006; Andrade, 2000; Kinne, et al., 2014). It allows for criteria to build sequentially in a similar manner to the ACM, making this an appropriate tool for applying this theoretical framework (Allen & Tanner, 2006). The descriptions contained in Table 1 relate to a student's progression through the ACM factors that guide the process of adaptive change as learning is engaged. The criteria provide dimensions of performance that are useful for assisting with creating direction, reflection, understanding, and clarification, as well as supporting progress towards a learning objective (Allen & Tanner, 2006; Andrade, 2000; Kinne, Hasenbank & Coffey, 2014). It is due to these characteristics that the ACM rubric is useful for evaluating students' progress via change processes, as well as allowing students to understand the need to actively contribute to the changes and skill-building adaptations in their learning (Andrade, 2000; 2005).

The second rubric, presented in Table 2, provides an alternative application beyond the usual focus on a student and refocuses the rubric into an assessment of the capacity of the school as the educating agent in the student's life. This rubric focuses on the school's approach to furthering the student's learning, purposefully and adaptively. To exemplify this, the second rubric considers the joint space of the teacher and school as a support to propel the student successfully into the future (see Table 2). Similar rubrics could be developed and applied to consider the assistance of peers, parents, the school, and local community, as well as state, national, and international authorities as their contribution to the adaptive learning of the student. The collaborative completion of both types of rubrics and the reflection on practice that is afforded, is intended to prompt consideration of potential change and optimal learning. Such practices create multiple potential layers of feedback loops that formatively construct processes to facilitate the student's learning and mastery into the future, and prompts reflection on the wherewithal to adaptively and conscientiously do so.

Table 2: Rubric of the adaptive change model (ACM) to facilitate learning for staff (or parents, teachers, classroom; and peers, community, networks, legislative authorities)

	Definition	Level 1	Level 2 (combined with level 1)	Level 3 (combined with level 2)	Level 4 (combined with level 3)
Open-ness to opport-unity	Responsible adults are free and open to the possibility of change - they have time, resources, and capabilities to improve their processes and open to assist the student/s.	Staff have shown themselves to be effective in dealing with similar activities in the past.	The innovation has been clearly defined with affordances and challenges identified.	There is a general and accepted view that the innovation is worthwhile, and productive relative to the varying degrees of effort required from the staff.	There is a high level of staff commitment to change and its benefits for the student/s despite the demands and use of finite resources.
Visualis-ation	The materials and processes and actions required to bring about the changes can be imagined, sequentially in the 'mind's eye' of the responsible adults.	There are graphic displays of how to approach similar tasks to achieve the change process.	Staff can visualise and visually represent the change progressively for themselves (curriculum design) and for the student (intervention).	Staff have revised the visual representations and elements of the task to generate a range of pathways to the endpoint.	There are clear visual displays and teaching materials that provide representations and translations of what is being learnt, and how to imagine the process and the end-point, that corresponds with the designed curriculum.

Planning	Sufficient plans have been put in place to help understand the process of change.	An audit of skills needed to support the curriculum innovation and intervention proposed has been completed.	There is a staged, sequenced professional learning plan for the activity.	A plan of the learning activities has been designed to meet the individual needs of the staff based on the planned curriculum reform.	There is a wide-spread and clear understanding of the planned activity that has taken account of the views of all stakeholders, including feedback on how to plan the intervention.
Action	Staff can enact the plan that was previously defined.	The plan and goals for the intervention and the new practices have been comp-leted and are clear to the staff.	The staff can man-age the introduction of the intervention and plans include fallback actions and activities if the tasks require review.	Practice and exten-sion activities as well as formal and informal feedback opportunities have been generated and scheduled.	Staff can innovate on the intervention/ curriculum reform, generalising proficiently to implement tasks in a range of contexts.
Closure	Staff can implement the proposed intervention and close the activity.	Elements of the anticipated curriculum intervention have been introduced while others are still being met.	The intervention has been introduced and most staff have responded in ways that achieve the desired outcomes.	The intervention has been introduced and the goals have been successfully achieved. Altern-ative processes have been established to continue reform efforts.	Aspects of the intervention have been generalised to other areas of the curriculum and extended as a spring-board for new learning that is self-directed and draws on explicitly managed learning and change.
Social support	Staff learn from and benefit from the assistance of others appropriately.	Staff are aware of the support structures available to them and the students.	Staff encourage each other to collaborate drawing on peer support to ensure the success of the intervention and model change.	Staff can effectively identify a range of support processes to facilitate their learning.	Social support is embedded in the change processes and draws on pastoral/ welfare, and social/ comm-unication processes.

Inner drive	Staff have the inner drive and motivation to learn.	Staff are interested in implementing the curriculum based on models of change.	Staff generally manage to maintain a strong, focused inner drive and stay motivated to the change process.	Staff apply their inner drive to remain focused through production and habituation stages of the change and recognise the need for persistence and personal motivation	Staff are highly motivated and experiment with ways of adapting and integrating the curriculum to enhance students' learning outcomes and persist and habituate change practices.
Manage-ment of negative emo-tions	Staff can manage their negative emotions.	Staff have demonstrated that they can manage their negative emotions effectively in the past.	Staff are generally able to manage inhibiting (e.g., boredom) and excitation (e.g., frustration) emot-ions to appropria-tely manage them-selves and remain focussed on reform processes.	Staff manage the negative emotions experienced and articulate their emotions in a thoughtful and regulated manner.	Staff verbalise negative emotions using respectful vocabulary and focus and redirect their emotional energy to facilitate change.

Note: this rubric is general and may be made task specific with some adjustment.

Concluding comments

Situating the student at the centre of the adaptive school in an education system aware of the transformational power of education (Jones, 2009; Mezirow, 1991; 2000) means that teachers become change agents, translators, and interpreters for and with the students. Teachers manage the change process through their representation of the curriculum for the student and, simultaneously, are agents of change for the school and those who work and interact within them. This is consistent with the philosophy of transformational learning (Mezirow (1991; Jones, 2009). This conceptualisation of the role of the teacher situates their impact on the student and at various levels of the educational system (especially the social and technological systems) of the educational setting (Meyers, Meyers, Graybill, Proctor & Huddleston, 2012). Therefore, the teacher's contributions as a change agent and coach in a changing school means that there is a constant, gentle, restlessness to facilitate student progress, all of which is embedded in a dynamic learning system of students, teachers, and the school. Eventually, growth will be apparent as greater mastery and self-efficacy occurs through the internalisation, adoption and meaningful application of the factors of the ACM, and automaticity is achieved by students. Eventually, the student will internalise a view of change synonymous with learning and become familiar with the application of the factors when there is a need to change and learn, and learn anew. The processes and supports facilitate learning and become a mechanism for engagement with learning and lasting change (Shayer, 2003). However, the constant trajectory of change means students (and teachers) are vulnerable to fatigue or strain and teachers need to observe carefully to ameliorate such outcomes and ensure variety and pace of reform efforts.

This is a proposed model and this is the first proposal of its application in teaching and learning settings. Therefore, future research needs to focus on investigating the usefulness of the rubrics as they apply to teachers and students. There is also the requirement to validate the factors of the model in reference to various learning and teaching processes as well as performance indicators such grade scores. Such research will inform and assist in the development of new techniques to provide evidence-based teaching practices. By promoting an approach to change based on transformational learning and a model of change, we are teaching students to be adaptable and innovative (Bowles & Hattie, 2013); capable of meeting the challenge of learning greater confidence and competence.

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