Title: A new method for identifying dimensions of interest: MINE

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Abstract

The Four-Phase model of interest development (Hidi & Renninger, 2006) distinguishes between early phases of interest where interest is triggered by specific situations and later phases where interest involves well-developed personal predispositions to engage with interest content. The differing cognitive and affective states that are implied by this distinction have implications for understanding interest and its application to inform design of engagement strategies for students with challenging behaviour. This presentation will describe the development and validation of a new form of interest measurement designed to identify students' interests and to profile the phase of development of those interests using the four-phase model. The My Interest Now for Engagement tool (MINE) is based on iFISH software (Pearce, 2008) and uses an interactive and playful environment to facilitate student reporting their interests as well as indicating cognitive and affective dimensions related to their experience when engaging with the interest content. The interactive nature of the tool allows students to explore and select from a large pool of potential interests. It allows for the triggering of new situational interests as well as reporting well-developed individual interests. Validation of the tool is based on responses from 136 first year undergraduate students and approximately 100 secondary students. The development of this tool has the potential to extend understanding of the cognitive and affective structure of the four phases of interest development as well as providing profiles of students' interests that can be used to facilitate engagement strategies and will be particularly informative in providing for students with challenging behaviour.

Introduction

The four-phase model of interest development (Hidi & Renninger, 2006) distinguishes early phases of interest where interest is triggered by specific situations and later phases where interest involves well-developed personal predispositions to engage with interest content. The differing cognitive and affective states that underpin this distinction have implications for understanding interest and its application to design of engagement strategies for students with challenging behaviour. However, to implement engaging curriculum requires a closer knowledge of students' interests and their cognitive and affective components. To address this need a web-based interactive exploration tool (MINE), based on iFISH software (Pearce, 2008), has been developed to profile students' interests.

Hidi and Renniger's (2006) model defines interest as an interaction between individual and environment and describes the first two stages as being newly triggered by a situation (triggered situational interest), and, an interest reaction that has been maintained over a relatively short period of time (maintained situational interest). As the individual engages further, acquires information and discovers personal value for the content of the interest, the interest becomes an emerging

individual interest. The final phase is a well-developed individual interest and the individual seeks opportunities to re-engage with interest content. Knowledge of students' interests and the phase of development of those interests can inform the delivery of curriculum for teachers of students with challenging behaviour.

Specifically, this paper will report on:

(i) The development and validation of a tool for the measurement and profiling of interest (MINE).

(ii) Identification of cognitive and affective dimensions that distinguish the four phases as defined in Hidi and Renninger's (2006) model of interest development.

Background and context

The initial development of the MINE project is designed to integrate engaging teaching practice into existing behaviour management strategies for those students who challenge teachers and situations in secondary schools. The identification of a students' interest, and the nature and dimensions of that interest is seen as a vital first step in developing engagement strategies that could more directly relevant to a student with challenging behaviour.

Currently, challenging behaviour in secondary school classrooms is presenting ever-increasing problems for teachers in Australia and around the world (Cameron, 2007; Tomazin, 2009). Behaviour modification strategies have been developed as a reaction to this problem, but an increasing number of teachers feel pressured by the difficult and disruptive nature of these students (Cowley, 2006; Lewis, 1991; Richmond, 2007; Rogers, 2007). There are many causes for misbehaviour in the classroom, and the MINE study addresses one that is generally overlooked – student disengagement due to lack of interest in classroom tasks and the learning process.

Within the domain of behaviour modification literature, the process of identifying lack of interest in learning as an antecedent to problem behaviour is not one currently employed in behaviour modification strategies used in Australia or the United Kingdom (Cowley, 2006; Cunningham & O'Neill, 2007; Dunlap, Kern-Dunlap, Clarke, & Robbins, 1991; Richmond, 2007; Rogers, 2007). This is despite mounting evidence that student interest has a relationship with school achievement and by implication, the learning behaviour of students (Ames, 1992; Clarke et al., 1995; deCharms, 1984; Dewey, 1913; Ely, Ainley, & Bortoli, 2008; Hidi & Harackiewicz, 2000; Hunter & Csikszentmihalyi, 2003; Pintrich & Schunk, 2002; Vallerand, 2000).

Within the domain of motivational research, both engagement and interest are seen as important factors in the successful delivery of curricula in schools (Ainley, Corrigan, & Richardson, 2006; Appleton, Christenson, Kim, & Reschly, 2006; Hidi & Harackiewicz, 2000; Renninger & Hidi, 2002). There is mounting evidence from interest, engagement and positive psychology research indicating that there is a positive relationship between achievement and positive affect, cognition and well-being (Hidi & Renninger, 2006; Seligman, Steen, Park, & Peterson, 2005). Despite this, contemporary behavioural management strategies ignore the *absence* of these factors as a potential antecedent to challenging behaviour.

In a previous study (Ely et al., 2008) it was demonstrated that students with challenging behaviour expressed their personal interests and had their interest

triggered by new things in their classroom environment. This previous study, using a mixed-method case study design, measured intrinsic motivation and its relationship to achievement. When confronted with novel tasks many participants mentioned that they would *"*give it a go*"* indicating a triggering of situational interest in the content of the task. In the Ely et al 2008 study, students were asked to respond to two questions: *'Did you feel like you were doing what you wanted to do?'* and *'Did you feel like you were doing what the teacher wanted you to do?*' In their responses to 131 tasks completed in the classroom setting, the motivational response groupings in Table 1were found.

Data suggested that from all 13 participants (14 to 16 years of age), if interest was triggered and then maintained throughout the task, students had higher levels of achievement (see Table 1).

Table 1: Motivational responses and task performance in 13 individuals with challenging behaviour

*Motivational response to task***	*Percentage of participants in each task type (%)*	*Number of tasks in each task type*	*Percentage of total tasks (%)*	*Mean for task performance**	*Standard deviation*
Very Poor	***50%***	***10***	***7%***	*1.70*	***1.06***
Recalcitrant	***43%***	***9***	***7%***	*1.44*	***0.73***
Disengaged	***57%***	***17***	***13%***	*2.18*	***1.13***
Compliant	***77%***	***19***	***15%***	*2.63*	***1.12***
Autonomous	***46%***	***14***	***11%***	*3.36*	***1.15***
Fully engaged	***77%***	***33***	***25%***	*3.88*	***1.08***

Notes:
**(Likert-type 1-5)*
**The 29 (20%) remaining 'other' tasks did not fall into the above categories

Conversely, those for whom interest was not maintained over the task did not succeed to the same degree. This implies that if triggered interest was extinguished, rather than maintained for any given task, then the level of task performance was lower.

Simply put, lack of interest (and by implication, lack of engagement) has a negative relationship with achievement - and therefore behaviour, in students who challenge teachers and situations at school. Current strategies to manage the behaviour of 'difficult' students are teacher-directed, relying upon the teacher to implement systems to improve whole class, as well as individual behaviour (Cowley, 2006; Richmond, 2007; Rogers, 2005). From the perspective of research into behavioural modification, several assumptions inhibit the investigation of boredom as an antecedent to challenging behaviour. Firstly, there is a perception that teachers in classrooms may not always have the training, time, or resources to discover individual students' interests (Hidi & Harackiewicz, 2000). It is also a common perception that teachers do not have the time to ensure that students with challenging behaviour are fully engaged with learning in a class of over 25 students, each of whom have

individual learning needs (Cowley, 2006; Lewis, 1991; Richmond, 2007; Rogers, 2007). Secondly teachers may conceive of interest as unchanging– something a student either has, or does not, and interest cannot be changed or enhanced by the teacher (Roberts & DelVeccio, 2000).

The My Interests Now for Engagement (MINE) project aims to challenge these assumptions, firstly by using an existing model of interest to develop a tool to profile the interests of students with challenging behaviour using web-based interactive exploration software (Pearce, 2008). Secondly, the interest profiles of students with challenging behaviour can be used to target engagement strategies for the benefit of the student in terms of both on-task activity and achievement, and therefore classroom behaviour.

The MINE project involves gathering information about the interests of the individual students in the form of an interest profile. The application of interest profiles may be of use to teachers, as a student who is interested is more likely to be engaged in a classroom task (Appleton et al., 2006). A student who is engaged in a task is more likely to be achieving and behaving well (Hidi & Harackiewicz, 2000) but it is necessary first, to address the problem of identifying and measuring interest in secondary students at school.

A model and tool to profile interest

Interest as a motivational variable refers to a psychological state of engaging, or a predisposition to re-engage with objects, events or ideas over time (Hidi & Renninger, 2006) and interest is defined as specific to an object (stuff), activity or idea and is not considered a trait or predisposition that applies in all situations (Renninger, 2000). With interest defined as a relation between person and interest object, its stability is partially contingent upon environmental factors. Similarly, engagement within the context of this study is defined as *behavioural engagement* that involves participation and involvement in relevant aspects of the learning process in an educational environment (Fredricks, Blumfenfeld, & Paris, 2004). The perception that existing interests are unchanging, as put forward by Roberts and DelVeccio (2000) can be misunderstood to be suggesting that if interest is not present then it cannot develop. This leads to the potential misconception that interest is something that a student either possesses or does not, and teachers may not be aware that they, as external agents, may make a contribution to academic interest (Ainley, Hidi, & Berndorff, 2002; Hidi & Baird, 1986; Hidi & Renninger, 2006; Renninger, 2000). When interest is triggered and it grows, so can its value as an antecedent to effective creative engagement and on-task behaviour.

The Four-Phase Model of Interest Development

The measurement of interest in this study will draw upon the four-phase model of interest development (Hidi & Renninger, 2006) which makes a distinction between situational and individual interest. Situational interest refers to focused attention and the affective reaction that is triggered in the moment by environmental stimuli. Individual interest describes a person's relatively enduring predisposition to re-engage with particular content over time as well as to the immediate psychological state when this predisposition has been activated (Hidi & Renninger, 2006; Renninger, 2000).

If a teacher becomes aware of a students' interests, they may support this interest development from triggered situational to the well-developed individual interest by using creative engagement strategies. Interest is also identified as an

important condition for learning, in particular for the academically unmotivated (Hidi & Harackiewicz, 2000). In the educational context where objects, events and ideas are integral building blocks of the teaching and learning process, the definition of interest as an outcome of an interaction between an individual and specific content in the classroom is particularly relevant (Hidi & Baird, 1986; Krapp, 2000).

Hidi and Renninger (2006) have elaborated the distinction between situational and individual interests into a four-phase model describing the development of interest from the initial triggered stage through to the longer-term well-developed interest. According to the model, situational interest is the basis for emerging individual interest and for this reason is particularly relevant in the educational context. The four phases contained within the model are described briefly below.

Phase 1: Triggered Situational Interest

Triggered situational interest refers to a psychological state of interest that results from short-term changes in affective and cognitive processing. Certain creative engagement such as group work, puzzles and computer based activities are known to trigger situational interest (Cordova & Lepper, 1996).

Phase 2: Maintained Situational Interest

Maintained situational interest refers to a psychological state of interest that involves focused attention and persistence over an extended period of time and interest has been maintained through task relevance and personal involvement (Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000). Within the classroom setting, structured creative engagement strategies typically provide external supports that lead to maintained situational interest (Renninger & Hidi, 2002; Wolters, 1998).

Phase 3: Emerging Individual Interest

Emerging individual interest refers to a stage in the development of an individual's interest where they start to seek out opportunities to re-engage with a particular objects/activities/ideas over time. Activities are typically self-generated, but an individual may require external support in the form of models, peers, clubs, teachers, parents, environment and resources (Renninger, 2000).

Phase 4:Well-Developed Individual Interest

A person with well-developed individual interest will tend to make opportunities to re-engage with objects, activities or ideas over time (Hidi & Renninger, 2006; Renninger, 2000; Renninger & Hidi, 2002). Specific engagement strategies that include less prescriptive curriculum and greater challenge may lead to improved knowledge building and achievement (Renninger & Hidi, 2002).

A new methodology – exploring, triggering and measuring

Initially the MINE program presents the individual participant with an interactive exploratory environment populated with 60 interest cells that allows them to explore their own interests. MINE provides students with a set of interactive 'sliders' each labeled with an interest parameter describing a dimension of experience (e.g., creative – practical; social – solitary; serious – fun; technological – natural; indoors – outdoors). The labels upon the sliders are not designed to have antithetical qualities but are used to describe bounded dimensions of experience. For example, creativity and practicality are not mutually excusive, but are used to create boundaries for the potential preferences of an individual as part of the process of exploration. These sliders or dimensions of experience are used to explore the pool of interest cells (see figure 1). Students are asked to choose three or more interests from the

pool. Using the series of five 'sliders' allows participants to generate their own general interest profile. Each of the 60 interest cells has embedded values (1-11) that relate to each of the 'slider' variables. This process creates an environment where interest cells become more or less prominent to the user depending upon the position of the sliders. The process is fluid and set in real time. Once the participant wishes to select a interest cell they can drag it into their 'interest box' and this indicates that they have selected some thing ('stuff'), activity or idea that reflects an interest they personally identify with at that time. An additional feature unique to the MINE process is that the tool can itself *become the trigger* for the interest that is selected. The MINE interface itself, and the exploratory engine contained within it allow for participants to 'discover' ideas, activities or 'stuff' that they may not have previously engaged with and are then prompted to feel curious about. This facility is in contrast to any data gathering process that only requires that the participant respond to questions that relate to identifying ideas, activities or stuff in which they are currently, (and by implication previously) interested. When the respondent has selected no fewer than 3 interests, they may move on to the next phase.

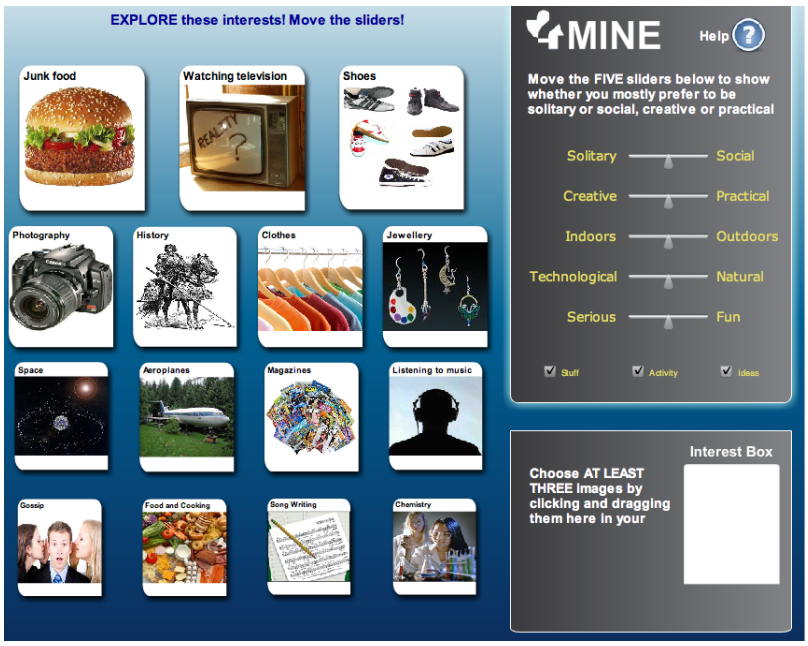

Figure 1: Screenshot of the exploring phase of MINE

After selecting their interests, the participants move on to the next phase. In this next phase participants use rating scales and type-in formats to provide details of their experiences with their own selected interests. Affective rating scales include happy, hopeless, proud, angry, anxious, hopeful and sad. Students also indicate their experience with interest content, for example, how long they have had the interest, how frequently they engage with the interest content, how personally important it is to them, and additional extended comment type-in options (figure 2).

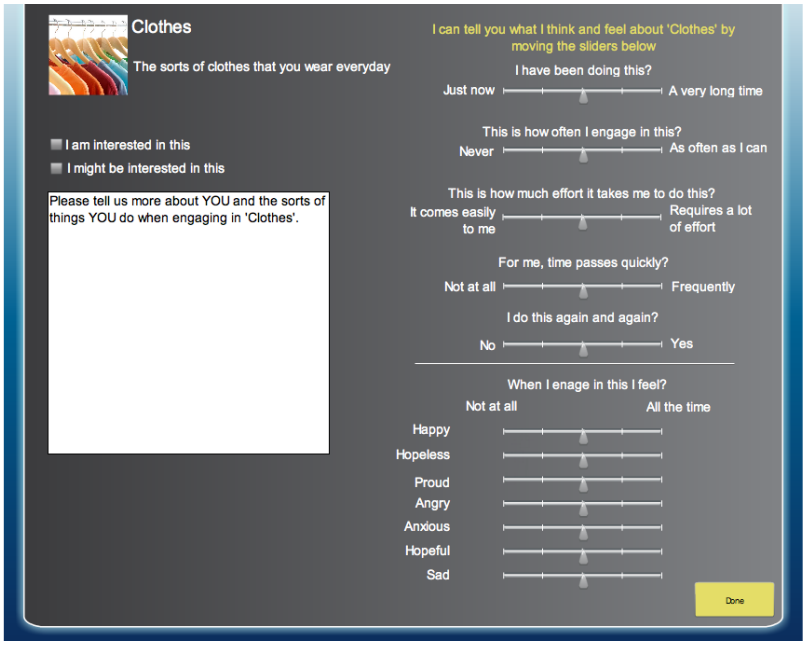

Figure 2: The measurement phase of MINE

These questions in Figure 2 are designed to gather responses indicative of the cognitive and affective dimensions that have been associated with their chosen interests and this will allow us to identify its 'phase' within the four-phase model of interest development. The following parameters for distinguishing the four phases of situational and individual interest (Hidi & Renninger, 2006), will be used for this identification of phase of interest development.

> *Triggered situational interest* as identified by MINE is characterised by positive affective responses (joy, excitement, pride and hopefulness), a greater degree of effort, little or no previous experience and a greater need for external support. The time-period may even be as short as "just now" as the MINE program allows for the triggering of interest itself. A response of "I might be interested in this" indicated a triggering of interest by the MINE process itself.
>
> *Maintained situational interest* as identified by MINE is characterised by positive affective responses, a degree of effort and some re-engagement. Participants require less experience, and need for external support than for triggered situational interest.

Emerging individual interest as identified by MINE is characterised by individuals who expressing knowledge, willingness to reengage, experience (engaged over time), effortlessness, and a complex affective response to the particular interest cell. Some external supports may still be relevant and participants will perhaps have some, but not a lot of experience in engaging with a particular interest cell.

Well-developed individual interest as identified by MINE is characterised by an individual who expressing knowledge, willingness to reengage, experience (engaged over time), effortlessness, and a complex affective response to the particular interest cell.

The development process

The development and validation procedure involves:

(i) Establishing basic parameter settings for the sliders participants use to explore the pool of 60 interest cells.

(ii) The MINE program is then used to produce interest profiles. Participants engage with the online MINE program and select personally-preferred interests, rate those interests on cognitive and affective dimensions, and provide further qualitative details.

(iii) Retesting of interest profiles using the MINE program after two months.

Students from two educational levels are participating in this validation process: 136 recruited from first year Psychology students and 100 recruited from secondary schools. Stability and changes in interest profile responses are mapped according to the four-phase model of interest development.

The design process –establishing the parameters

Initially the MINE tool requires a number of potential interests for possible selection by participants. A nominal list of potential interests, or interest cells' was generated by consultation with several young people in the target age (15 to 17) range. It became apparent that several interest cells could easily be grouped into broader sub-categories e.g.: football, hockey, netball etc combined into outdoor sports, and playing the tuba, flute, guitar combined into playing an instrument etc. This reduced the number of interest cells available to the participant from an initial list of over 160 to 60. This has usability benefits as part of the exploration process and the detail of the participants' particular interests that relate to 'football' or 'playing the clarinet' can be expressed in the detailed assessment phase that follows the exploration and selection process. In addition, interest cells were then grouped into objects (stuff), activities or ideas and these classifications were not mutually exclusive. 'Stuff' was considered a more appropriate classification that 'objects' for secondary students who were the target group of potential participants. This allows for the above three classifications to be used a filters by the participant in their process of exploration and reduces the number of interests cells made available for possible selection and is a potential aid to usability.

Values for each of the sliders were determined by gathering data from 136 first year psychology students. Each participant gave a rating for each of the 60 interest cell on each of the 5 slider dimensions using a 1 -11 likert-type rating scale.

The rating scale was anchored a 1= serious to 11 == fun, 1 = creative, 11= practical etc for each of the five slider. For example a rating of 1 on the indoors to outdoors slider dimension indicates *only* indoors, a rating of eleven indicates *only* outdoors and a rating of six indicated indoors and outdoors *equally*. In addition participants gave a rating of how interesting they personally found each of the interest cells on a 1-5 likert-type rating scale 1= not a all interesting, 5= very interesting. Participants were also invited to add any other potential interests that were not contained within the list of 60 interest cells on offer. There were 360 items on the questionnaire in all. Visual images and short descriptions were generated for each of the interest cells, and usability testing was done on a number of secondary students to adjust and improve the visual layout of the MINE tool to facilitate ease of use.

Outcomes

The first phase of data collection has been completed. Data has been gathered for the settings of the five sliders used to explore the pool of 60 interests used in the MINE process. The results from questions relating to how interesting each of the interest cells were to the participants was analysed first. Results showed that all of the interest cells were interesting enough to remain as part of the MINE process. The least interesting interest cell was 'The stock market' (mean 2.03, SD 1.27 likert-type 1-5) and the most interesting being 'A few good friends' (mean 4.55, SD .63 likert-type 1-5). Mean for all interest was 3.41, SD 1.16. The 136 participants did not offer any consistent suggestions as to things that could be included upon the list of 60 interest cells that were not already included, and all participants found a number of potential interests that they were personally attracted to. Based upon these findings it was decided to continue the development with the list of interest cells unchanged.

Data received relating to the slider setting for each of the 60 interest cells also showed that there was agreement amongst participants as to the 'qualities' of each of the interest cells with regard to the five sliders that described five dimensions of experience. A typical example is provided in Table 1 of the responses from participants to the interest cell 'fashion'. 'Fashion' was interesting to many of the participants and there was agreement as to where the slider values should be set.

Table 1: Results for slider variables and relevance for the interest cell 'Fashion'

	Fashion indoor/ outdoor	Fashion creative/ practical	Fashion technological/ natural	Fashion serious/ fun	Fashion alone/ with friends	Fashion How interesting?
N Valid	136	136	136	136	136	136
Mean	6.60	3.71	6.07	8.40	7.39	3.48
Median	6.00	4.00	6.00	9.00	8.00	4.00
Std. Deviation	2.513	1.940	2.466	2.078	2.287	1.299
Variance	6.315	3.765	6.083	4.317	5.232	1.688
Range	11	10	10	10	10	4

Similar agreement was achieved for the settings of the slider values for all 60 interest cells subject to three qualifications.

Firstly, not all slider variables were of equal *relevance* to all 60 interest cells. An example of this is the slider variable indoor to outdoor and its relationship with the interest cell 'photography'. Photography is, by definition, something that you can take an interest in wherever you are, indoors or outdoors. The *relevance* of asking if photography is either indoors or outdoors led to responses that tended to the response 'equally indoors and outdoors' (Mean 7.3 SD 2.02). This response is appropriate for the design of the instruments. If a participant sets the indoors - outdoors slider the middle then the participant is more likely to have the interest cell 'photography' available for selection.

Secondly, the setting of the slider in the middle may indicate that an interest cell is *either* one thing or the other as expressed by each of the five slider dimensions or *neither* one thing nor the other. An example of this is the use of the slider dimension creative/practical and the interest cell 'money'. Money may be seen as *neither* creative nor practical but is only a means of exchange, or it may *either* be creative or practical depending upon its intended use. Response indicated that a wide range of responses were given (SD 3.04) but the mean result of 5.94 (1-11 scale) results in the interest cell 'money' being more likely to be prominent when the creative/practical slider is set in the middle. This is an appropriate outcome in the MINE exploratory environment.

A final qualification regarding the reliability of the results relate to potential *confusion* as to the meaning implied by one of the interests cells. This *confusion* related to the interest cell 'keeping a diary' and the single slider dimension serious/fun. The results of a mean of 6.51 SD 2.80 may indicate that there was some semantic confusion as to what 'keeping a diary' meant (see figure 3). Was 'keeping a diary' referring to a work/schedule diary, or a personal journal of the participants' personal reflections and significant events? It was decided to rename the interest cell 'Keeping a personal journal' as this better expressed the original intention.

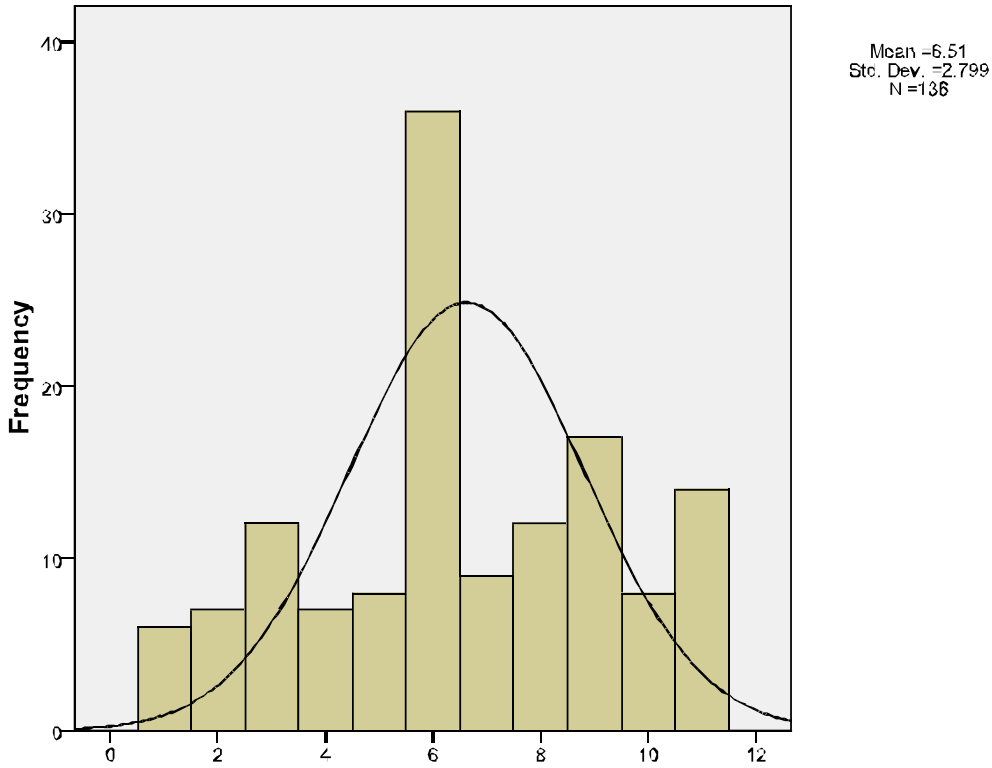

Figure 3: Keeping a Diary 1 = serious, 11 = fun

Taking into account the above qualifications there was significant agreement as to the qualities as expressed in the slider dimensions for each of the interest cells made available for exploration in the MINE process. The robustness of the instrument and the methodological approach, with 15 interest cells selectable and examinable on the screen at any one time, allows for serendipitous discovery as well as determined searching by participants for stuff, activities or ideas that they are, or might be, interested in. The four-phase model of interest development seeks to articulate a process whereby interest develops from one phase to another from triggered situational all the way well developed individual interest and the methodological approach implicit in the MINE process allows for articulation of all phases, including an interest being triggered by the tool itself.

The continuing MINE project

Following the development of the MINE tool, the MINE program will now be used to measure interest at two distinct test points 2 months apart with 100 students in the target age range (14-17 years old).

For the MINE tool to be considered valid and reliable, those interests that have been identified as emerging (phase 3) or well-developed (phase 4) individual interests at test point 1 of will be expected to be present at test point 2. In addition, those interests expressed as triggered (phase 1) or maintained (phase 2) situational interests will either have developed, remained situational or be absent at test point 2.

An interest may be considered to have developed in the following example. A participant initially responds at test point 1 that they 'might' be interested in playing guitar, have not re-engaged but have positive affective responses (hopeful, happy etc).

If this interest profile has subsequently changed, and the participant has re-engaged often, persisted, and has a far greater knowledge and complex affective responses (happy, proud, a little angry) at test point 2 then the phase of interest has developed for Triggered situational interest to a individual interest. A participants' interest is considered to have been sustained if there is no change in affective, cognitive or knowledge components in their interest profiles from test point 1 to test point 2. Interest is considered to be absent if it is selected at test point 1, but not selected at test point 2.

Outcomes and Implications of MINE

The processes used in the profiling of interest using MINE software imply a new methodology for the measurement of interest. The development, testing and validation an effective tool that generates interest profiles for students and measures the cognitive, affective and knowledge components of interest has practical implications in the creation and implementation of creative engagement strategies. As interest is a necessary but not sufficient condition for engagement (Appleton et al., 2006) identifying the *type* of interest (situational or individual) allows for *appropriate* engagement strategies to be designed. In addition, the development, testing and validation of an effective tool that provides a trigger for situational interest as well as measuring pre-existing interests can allow the MINE toot to trigger the use of engagement strategies in the classroom.

If a student is experiencing a newly triggered situational interest, then engagement strategies will be more likely to succeed if they include bounded, structured activities that are clearly expressed and the student is provided with resources, interpretive material, interpersonal interactions and one-on-one tuition. In contrast, if the same student is presented with engagement strategies that involved need for persistence, complex problem-solving tasks, open ended and unstructured resources or requirements to engage autonomously then the process of engagement may fail to deliver any positive learning outcomes. Conversely, if a student has a well-developed pre-existing interest and identifies personally with an object, activity or idea, then the above situation would be reversed. Bounded, simplistic, overly structured engagements may lead to frustration and disengagement while allowing for autonomous, complex, meaningful engagements that may even require persistence, or working through adversity may lead to good learning outcomes, and even the genuine satisfaction of a job well done.

Good teachers in good classroom environments can perhaps naturally discriminate between phases of situational and well-developed individual interest by the simple process of inquiry in pre-existing positive interpersonal relationships between teachers and students. There are many situations however where such an ideal situation is very difficult to achieve, especially when dealing with uncommunicative students with challenging behaviour or students with disabilities are involved. The MINE tool may become useful in situations in which a student is new to a school, teacher, carer or integration aid, and pre-existing relationships are absent. Students in these situations are often unwilling or unable to express their interests when asked directly. One significant potential benefit of the MINE process is that the tool is not only an aid in this process of enquiry, but MINE can also trigger interests as part of its internal exploratory process. This triggering of interest may create new possibilities for the student as part of their ongoing learning in the classroom and beyond.

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