Independent researcher report

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**Introduction**

Kiwadigital recently sought my research advice in relation to the SLAM programme, specifically on: the construction of a student survey, independent perspective of the educational programme offered to students, and analysis of data. This report contains four sections:

* describes what was observed of the educational programme;
* summarises related research literature;
* analyses the SLAM programme in relation to the data collected by the researcher (observations, interviews conducted with students, facilitators and school personnel) and research literature;
* and provides future considerations for sustaining the programme.

**Observation of the educational programme**

One day of the SLAM programme (27/6/2014) in two schools was observed by the researcher. In essence, SLAM involves students for two school days in which they are required to collaboratively create an e-book for uploading to the internet (in this case, to be available on the i-Tunes website). The task involves the students identifying a topic of interest to their age group, composing a short story, creating associated illustrations and sound effects for downloading on the internet. Size and time matters, so the story is restricted to seven slides with a maximum of 29 words per page. Selection for this intensive programme was on the basis of teacher identification of male students with minimal engagement in learning and under or low achievement in literacy.

Observations were made in the second day of the two-day SLAM programme. The morning observation was in a boy’s integrated secondary school (Year 10 students around age 14), and the late morning/early afternoon session in a state primary school (Year 4-6 boys around age 8-11). In both cases, the programme was operating in a regular classroom in the respective school, with access to a separate withdrawal space for audio recording. Four groups of boys (typically 4-6 students/group) were working together in their own workspace, each of which had a young adult facilitator. Around the room were not only pens/paper/scissors etc but several large screens, laptops for use, scanner/photocopier; and in an adjacent room, voice recording equipment. For the duration of my observation there were no behavioural issues, all students were focused on the task at hand, and contributing to their team’s story construction.

Interactions between facilitators and students were courteous, encouraging, task-oriented, but also process-focused. Facilitators gave reminders of time limits (*e.g. “we need to have these illustrations finished by lunchtime, so we can scan the documents this afternoon*”), ensured all members were contributing (“*how about you cut these figures out..”, who would like to draw the illustration for slide 3?*”), acknowledged individual strengths *(“you have a great voice, how about you do the voice over?”, “do you think you could have a go at translating this story into Samoan?*”), and shared their knowledge or skills (*e.g. demonstrating a simple sketch – comic artist; showing how to scan documents – IT technician; resolved a stalemate decision between two students with a couple of games of ‘paper, scissors, rock’).*

All of the students were participating in elements of the task: drawing sketches, colouring, cutting and pasting scripts onto the storyboard template, searching the internet for information, scanning documents, recording voice over or discussing ideas with one another or the facilitator. Nobody was unoccupied or disturbing others. The level of student interest was particularly evident from two incidents: four of the secondary student group arrived early to school (on the second day of their SLAM session), to continue with the task; at the primary school most of the boys spontaneously returned during their lunch break (after eating) to complete the illustrations.

Interestingly, these two groups comprised boys who had been invited to participate in SLAM on the basis of minimal engagement in learning and under-achievement in literacy. Why, in these observations, were the boys belying these selection factors in exhibiting focused attention to learning?

The next section of the report explores research literature in relation to notions of student engagement in learning, the nature of adolescent learners, pedagogical (teaching and learning) factors, and key competencies, before analysing factors embedded in the SLAM programme resulting in positive student experiences.

**Research literature**

1. **Student engagement**

Student engagement is commonly thought to be fundamental to school achievement (Akey, 2006; Fredricks, Blumenfeld & Paris, 2004) and whilst there is some scholarly debate about how to define engagement, particularly its relationship to motivation and self-regulation, it is generally thought to be a multifaceted construct comprised of three inter-related dimensions: behavioural, emotional and cognitive (Gibbs & Poskitt, 2010).

Behavioural engagement is observable and understood in relation to student attendance, presence in class and adherence to school rules and expectations. Sometimes it also includes the notion of effort and involvement (Gibbs & Poskitt, 2010). Emotional engagement incorporates relationships amongst students, student-teacher, student attitudes and feelings as well as their perceptions of “the social environment including affiliation, cohesion, fairness, mutual respect, and support from the teacher” (Patrick, Ryan & Kaplan, 2007, p.83). Implicit in the notion of emotional engagement is perceived worth and cost of participating in and completing the task (Tyler & Boelter, 2008). Finally, cognitive engagement relates to learning - focused student attention in grappling with ideas and information to make sense of new concepts, creating or generating new combinations or insights and committing to memory. Cognitive engagement is more difficult to pinpoint because it is usually internal (in the student’s head). However, it can be manifested in discussions, and well-planned tasks.

Like adults, students can vary in levels of engagement depending on how comfortable and alert they feel (emotionally and physically), how interested they are in the task, how competent they perceive themselves to be in relation to the task (the likelihood of success) and other people present and their perceived value of the task (is it worth committing time and effort – what’s the payback?). Engagement varies according to a number of factors, such as within the duration of the task, time of the day, across contexts, nature of the people associated with the task, and other distractions or incentives. The environment, the people and the nature of the people students are with can have a critical impact on engagement.

1. **Nature of adolescent learners**

Adolescence is a period spanning between about age 10 to 25 years of age (Pendergast & Bahr, 2010), and is simply the transition period between childhood and adulthood. It is characterized by rapid physical growth, development of adult physical features, significant changes in the brain and transformation from adult dependency to independence. During adolescence, students’ allegiance tilts (sometimes lurches) from parents and adults to the peer group as they encounter a significant period of identity formation. They have a strong need to belong and be accepted, to feel competent and confident. Strong emotions are felt and expressed, due to the limbic system and areas of the brain stem developing sooner than other areas of the brain associated with logic and judgement (Nagel, 2010). Influencing emotions are various levels of hormones, such as serotonin that has a role in moods, eating and sleeping patterns (adolescents tend to fall asleep later at night, consequently sleeping later in the morning). Dopamine, “a type of neurotransmitter between synapses” (Nagel, 2010, p.92) is produced in high levels in adolescence and has a role in stimulating the search for novelty, reward seeking and pleasure – frequently manifested in higher levels of risk-taking. Students also have high energy levels and experience difficulty sitting still for prolonged periods.

The brain does not develop in isolation. The social, cultural, physical, school and home environment has an impact on development. Relevant role models, moderate levels of stress and appropriate experiences have a positive impact on adolescent development. With respect to schooling, adolescents have a strong need to belong, to be accepted, encouraged and challenged in order to develop competence and confidence. This means schools and classrooms where they can experience a mix of autonomy and collaboration (for identity formation), choices in what, how, when and with whom they learn, teachers who know and care about them, who treat them fairly, develop learning programmes that are fun (varied, active, at optimal levels of challenge, meaningful and relevant to their lives), and that help them develop as persons (goal-setting, regulating behaviour and learning, nurturing trusting relationships, respecting themselves and others) in order to become well-adjusted and contributing adults (Gibbs & Poskitt, 2010; Poskitt, 2011).

1. **Pedagogical (teaching and learning) factors**

Adolescent students like teachers who know them as individuals, understand them as adolescents and treat them like adults (fairness, respect, trust and appropriate responsibility and freedom). In their learning they like to: be actively involved (not passively listening or copying notes), have choices (over what, how, when and where), be physically active (to move around the classroom, permission to fiddle and doodle, to play games like ‘silent ball’), vary between working alone or with others, feel safe to ask questions and take learning risks, have variety and fun, laugh, link learning to the real world and be stimulated in creative thinking (Poskitt, 2011).

1. **Growing personal and social competencies**

*The New Zealand Curriculum* (Ministry of Education, 2007, p.7) has a vision of “young people who will be confident, connected, actively involved, lifelong learners”. In order to foster these attributes, five key competencies are fostered in schools: “thinking; using symbols, language and texts; managing self; relating to others; participating and contributing” (MOE, 2007, p.7). Thinking can be difficult to measure since it refers to internal processing within the brain to make sense of or interpret new experiences, but it is manifested in various ways such as: student questioning, inferring, summarising, reflecting, evaluating, predicting, imagining, revising, generating ideas. These types of thinking can be evident in discussions or production of mind maps, graphic organisers, writing, drawings, diagrams and creative products. Similarly, using symbols, language and texts enables students to organise and express their thinking in writing, posters, sound, images, movement, through technology and mathematical symbols.

Human interactions are the ‘glue’ amidst these competencies. Successful learners are able to manage themselves, their emotions, time and capabilities. Self-management is apparent in skills such as time-management, goal-setting, adaptability and in attributes like self-confidence, reliability, trustworthiness and resilience. From this foundation learners are able to relate effectively with others. Listening, responding appropriately, negotiating, sharing knowledge, skills and talents, being open to diversity, awareness of the effects of their actions and words on others, and understanding the benefits of and occasions for cooperation or competition. Only through participating with others and contributing to groups, families and communities do learners develop a strong sense of identity, their place in the world and opportunities to contribute and grow as interdependent citizens.

With this brief synopsis of research literature related to student engagement in learning, adolescent learners, and five key competencies in the New Zealand Curriculum there is a platform on which to analyse factors embedded in the SLAM programme.

**Analysis of SLAM programme**

**a) Structure of SLAM**

Being an intensive, “out of the regular classroom programme” SLAM has a *novelty and fun element* from the outset. Adolescents enjoy new and varied learning experiences, such as creating an e-book (something they had not done before) and learning with a different combination of students and adults. Add to this new experience the appeal of creating an exciting IT product that will be launched on the internet, creates a high *sense of relevance and authenticity to adolescents’ life outside of school* (technology rich interactions). Their *need to belong* is met by selection and invitation into the programme along with other like-minded and similar aged students.

A *secure, fair environment* is established with the setting up of “house rules” on the first day, e.g. everyone contributes to the group task, all members are needed for their range of skills and to assist as a team in order to complete the task by the end of day two. The task (creating an e-book) is clearly defined as is the timeframe (two full school days). Shared planning is done and recorded in a visible place for tasks to be checked off. Within the group setting each student is allocated tasks to contribute to the group, but is also *recognised for their individual talents* (some students take the lead for identifying the story topic, drafting the story, editing, typing the script, sketching, voice-over etc). Creating the e-book is an opportunity for *plenty of choice* (topic, story composition, picture content and style, task specialisation such as voice-over) and *leadership within the group* (in each of the tasks).

Each group has a dedicated facilitator assigned to them; *an adult to whom they could relate* and who would guide them through various processes and successfully to the end product in a timely manner. Students are able to *talk and ask questions in a safe, small group environment*, and together they work to produce an end product. Such *teamwork* ensures a *safe and comfortable emotional and cognitive environment* for learning to write, illustrate and produce an e-book. Various phases and tasks are necessary to produce the e-book, thus *breaking the task into smaller achievable components*.

The first day is focused around establishing group operating procedures, brainstorming potential story topics, identifying key features of a successful story (beginning, middle, end; a dilemma or problem to solve, and problem resolution), writing and crafting the story. Due to time and space constraints the story is required to be seven pages in length, and a maximum of 29 words per page (a very *achievable task, contributing to student sense of success and growing competence*). The second day is focused on creating illustrations, typing and printing the story, scanning the pages and producing a voice-over. Having a clearly defined structure and sequence of tasks gives these students a *sense of security and progress*. Particularly for boys, *specific tasks in a defined sequence and in a limited time period reduced the temptation for procrastination or avoidance behaviour.*

1. **Adult/facilitator ratios**

The average ratio of one adult facilitator to four/six students enables students to *receive individual attention, to seek guidance and ask questions in a safe environment* (compared with seeking help or asking questions in front of a whole class of students). Moreover, these adults are able to keep the small group of students on task, and attend in a timely manner to any necessary group processes (e.g. guiding them on the appropriateness of story content, helping to select story lines in a fair manner, ensuring everyone is included and contributing).

**c)** **Type of facilitator**

Selection and involvement of *young, “cool” role models as facilitators* was another appealing element for student participants. Amongst the facilitators were a comic artist, television actress, free-lance photographers and ICT experts, to name a few talents. Student participants identified with these young adults in a number of ways: their age, ethnicity and culture (e.g. Māori, Pacific Island, Asian, Pakeha), in occupations outside of education, some of whom had experienced mixed success at school but had developed other talents that resulted in non-traditional employment. A few students were inspired from informal discussions with these facilitators to broaden their horizons and seriously consider careers in fields such as art and IT related fields.

Even more influential however, were the personal qualities of these facilitators. They interacted with the young people in a *positive, respectful and patient manner*. Their *clarity about the purpose, structure and procedures* within the SLAM programme meant they kept students working in a *focused and timely manner* on each task, gave a balance of *specific directions and guidance,* but also *responsibility to each student* to undertake appropriate tasks. They responded to student questions immediately and with specific and succinct guidance (rather than perhaps a common teacher trait of asking the student more questions or giving a lengthy answer). Their naturalness in student interactions (relating as an older peer/student, compared with a professional approach of teachers) was refreshing for the students. These facilitators *emanated enjoyment and enthusiasm for being with the students*, and energetic commitment to the SLAM programme.

**d) Presence of a teacher from the school**

At risk of contradicting statements above, noteworthy too, was the presence of a teacher from the school in the programme. Their presence tended to be “low-key” and understated, but nevertheless important in several ways. Where necessary, the teacher was the conduit for organisational matters (e.g. accessing a quiet space in the school for voice-recording). Students realized they were privileged to be selected for the programme and the presence of a teacher ensured a level of accountability and appropriate student behaviour to encourage successful participation for the duration of the programme. Observing the manner in which students interacted with other students, facilitators and with the SLAM tasks provided opportunities for reflective insights for the teachers as to adjustments they might make in their classroom programmes (content and processes), and how they might connect this student experience to ongoing learning.

**e) Fostering of key competencies** (thinking; using symbols, text and language; managing self; relating to others, contributing and participating)

The SLAM programme structure, task and associated processes enabled students to develop each of the key competencies. *Thinking,* one of the key competencies, was evident in student questioning other students in the group and the facilitators (e.g. “*How do we come up with a character name that includes all of our group members? What style of dress would show fear on these characters? How shall we depict the battle? Which of these sketches best suits the hero?”).* These examples of generating ideas, imagining, reflecting and evaluating were apparent in the writing and illustration phases of the task, not only in the discussions and conversations but also in the production of sketches, planning and storyboard drafts.

Similarly, *using symbols, language and texts* enabled students to organise and express their thinking in writing, sketches, illustrations, practice for and production of the voice-over. Illustrations portrayed emphasis in speech bubbles, moving letters or characters, text colour, size and font type. Although common story topics included sports, battles, fantasy, heroes or the time old tension between good and evil; students were guided in creating content and themes that would be suitable for a wide audience, was original and not likely to infringe copyright regulations.

Task structure and guidance of facilitators helped students with *self-management* skills such as *time-management* (chunks of time in which to complete components of the task, such as the topic, plot, drafting the story). Students needed to not only *generate their own ideas but consider and include the ideas of others*. At times this process required *negotiation skills and “letting go”* of some of their own thoughts in order to follow the direction of the group. (In one case a student needed a few minutes apart “to sulk” and come to terms with their idea being overtaken by the group. On another occasion two groups, on the suggestion of a facilitator, played a few games of “paper, scissors, rock” to settle on which group could use a particular story character). These experiences help students learn to *adapt* and accommodate others in their groups.

The interdependent nature of the SLAM task necessitated students being *reliable, trustworthy and resilient*. In one example observed, on day two of the programme a couple of members from one group did not arrive at school. Such absence required the group to re-allocate tasks and created a sense of urgency with fewer people to share the load. Fortunately for them, one boy arrived somewhat later. *Adaptability* was required again with adjustment of tasks to include him in the group. The students showed quick thinking and *delegation* by offering the boy a choice of two tasks towards which he could *contribute* (rather than displaying annoyance at his lateness, they showed gratitude on his arrival and *inclusion* of him in the group).

However, not all members contributed equally. According to a facilitator who referred to a group in another school, one of the group member’s took on responsibility for the final crafting and editing when the efforts of others’ waned. The facilitators discussed with the group the consequences (such as that member gaining name credit for editing rights and the others as assistants, rather than all names equally acknowledged as group contributors).

*Appreciation for and valuing of the contribution of each member* was modelled by the facilitators. “House rules” were established in the first block of day one when facilitators defined the task and team processes. *Facilitators were pivotal in modelling and fostering the inclusion of group members*. They were *exemplary in listening, responding appropriately, modelling of negotiation skills, sharing their knowledge, skills and talents, being open to diversity*. Through their portrayal of these skills, facilitators enabled students’ interactions to be respectful and to develop awareness of the effects of their actions and words on others. Students *gave and received affirmation from one another and from the adults* in the room. Including all team members was evident in the naming of a story character – using the initial letter of the names of all students in the group and the adult facilitator. These seemingly small examples are important for *developing a sense of group identity and belonging* – vital in adolescent’s identity development, along with growth in competence and confidence. Most students realized that accomplishing a final quality product in time required teamwork and contribution from all group members.

**f) Engagement factors**

*Behavioural engagement* was evident in students’ attending both days of the SLAM programme (with very few exceptions of absence on day two), *committing effort and attention* to the construction of an e-book. In relation to *emotional engagement* students *displayed respect* for their facilitators and fellow group members, they *interacted in a fair and cohesive manner* and there were no incidents observed of other groups being disrupted. Students were keen to complete the e-book and were *supported in their commitment to the task by facilitator encouragement*. Finally students demonstrated *cognitive engagement* by *brainstorming topic ideas, generating lines for the story and ideas for illustrations, refining and improving of the storyboard, ‘bouncing off’* suggestions for voice intonation in the voice-recording.

**Conclusion**

Although only a brief, intensive programme, SLAM provided students with an educational experience of literary success. Attention to the type of task, content, and associated processes in planning and execution of the programme ensured a high likelihood of a successful experience and outcome for participating students. Independent observations revealed students fully engaged in the learning task, embodying the five key competencies of the *New Zealand Curriculum*. Despite involving boys and young men who commonly experience mixed success in literacy achievement in New Zealand, this programme provided them with behavioural, emotional and cognitive success in communicating orally, visually and in writing. Their achievement was evident in making meaning (listening, reading and viewing) and creating meaning (speaking, writing and presenting), core strands of the New Zealand English Curriculum.

Influential factors creating the likelihood of student success were analysed in the report, and related to engagement and motivational aspects (relevant and authentic task with incentives of publication on the internet, compressed timeframe optimising focused-attention, optimal levels of individual responsibility and group support), and effective pedagogical strategies with predominantly adolescent students (such as teamwork in small groups; interested and supportive facilitators; plenty of choices of what, how, when in the task; freedom for physical and cognitive movement, emotional and cognitive affirmation and challenge, learning tasks with high appeal).

The only concerns with the programme relate to sustainability. How to sustain the experience of literacy learning success for these students in their regular classes and school settings, how to foster uptake of successful elements of the programme in schools, how to upscale the programme with less intensive resource demands. A few future considerations are provided to provoke thought and discussion for potential adaptations.

**Future considerations**

1. **Resources**

The SLAM programme was well resourced with a ratio of one facilitator to a group of about six students each. Furthermore these facilitators brought a range of relevant skills to the programme (e.g. comic artist, TV actress, ICT expertise); and were accompanied by new iPads, notebooks/laptops, large screens, portable photocopier/scanner, voice and video recording devices (as well as pen/paper). Facilitators were supplied with a well constructed training manual (containing, for example, goals of SLAM, standard procedures; guidance on processes, lists of standard equipment to use). Underpinning success of the programme was identification and selection of facilitators with highly developed interpersonal skills who would inspire reluctant writers, and virtually guarantee a successful process and outcome for these students.

Whilst schools may have some of the equipment, few schools would have the suite of technological devices the team brought with them. If one of the goals is to scale-up a similar programme in more schools, perhaps the SLAM team could trial a more-cost effective version using perhaps iPads only, and some voluntary personnel such as senior students, student teachers, unemployed university graduates, recently retired people (but those who have the requisite skills and knowledge). However, one of the success factors for these adolescents was learning (and connecting) with young adults (with engaging personalities) so youthful involvement would need to be retained. Nevertheless each community comprises inspiring role models whose skills and personalities could be harnessed to foster successful learning.

1. **One-off -> follow-up/ responsibility of schools**

Whilst one-off experiences (such as the 48hour SLAM experience) can be life-changing for students, the ongoing influence of the encounter is limited unless there is some follow-up. Such follow-up could be provided by SLAM (e.g. web-based such as Facebook/LinkedIn or the like with young people), invitation to a launching (across schools) of the e-books, or preferably by the students’ schools through e.g. special assembly launching the e-books, a feature made on their school website celebrating students who contributed to the e-book production, one or two ‘apart days’ for similar literacy intensive experiences; these students being leaders with younger children to produce school-generated e-books. Students could be surveyed for contributing ideas as to desired follow-up.

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1. **Gender; elders, community involvement**

SLAM has been appropriately targeted in this contract to boys under-achieving in literacy. Perhaps the programme could be broadened to have separate sessions for underachieving girls. Maybe elders or grandparent figures could be involved to assist students in creating stories to capture important cultural values, beliefs, proverbs and the like, particularly for students of Māori, Pacific descent or ethnic minorities. Another possibility is to invite community involvement (e.g. inspiring role models – sports, business, local entities).

1. **Selection – participants, group composition**

Students in SLAM were identified and selected by the schools. Within the programme allocation to groups was sometimes done randomly, in other cases by teacher knowledge of personalities. Future consideration might include allocating students to groups to ensure a mix of skills in creative ideas, skills in writing, illustrations, ICT and voice-over. Keeping such factors in mind would increase the likelihood of each group having students with confidence in each of the tasks required to produce an e-book.

1. **Holiday programmes**

Consider providing SLAM in school holidays for a wider range of students to opt into for an intensive literacy learning experience. This option may need to operate on a cost-recovery basis however.

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