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English Language

No	Title	Abstract	School	Author
1	Looking Into What Our Students Think About When They Read	In this paper, we set out to discover in a pilot study what our students think about when they read in order to ascertain the difference between good and poor readers. Through the think-aloud method and retrospective interviews, we gathered data on strategies our students used in navigating texts and making meaning out of the texts they have read. Understanding our students' reading strategies enables us to develop lessons that improve their reading comprehension skills.	Siglap Secondary School	Leanna Lyn Gaffar, Sarala Thiyagarajan

Inter-Discipline

No	Title	Abstract	School	Author
1	An Investigation into the Engagement Level as a result of Interdisciplinary Approach in Teaching at Primary Three	In 2004, Singapore Prime Minister made a call to teachers to 'teach less, learn more', prompting teachers to re-examine the fundamentals of teaching and learning. Ministry of Education (MOE) undertook a review of its curriculum and assessment system to see how schools could better develop the various essential skills, such as creativity, thinking and communication skills, required for the future. It provided PETALS ™ Framework which describes five dimensions of engaged learning to guide schools in designing lessons to better engage students in learning. In Pasir Ris Primary School, teachers innovated a school-based curriculum in Portfolio Assessment and it was recognised by MOE in 2006. The school-based curriculum was a huge success and it paved the way for many primary schools. Researches revealed that there were positive gains and students were more engaged in their learning, leading to better performance. In the light of these findings, teachers at primary three embarked on such similar approach. As the new curriculum adopts an integrated approach, it helps students to see interconnectedness across disciplines within different content fields. To study the effectiveness of such a package in engaging students, a sample size of 70 students responded to the PETALS ™ Engagement Indicator Questionnaire developed by MOE. This paper reports the action research journey undertaken and presents the findings of the research carried out on integrated curriculum at primary three.	Pasir Ris Primary School	Polly Chew Dawn Tan Ai Ling, Elizabeth Choo Lay Kim, Rita Loh, Suriani Binte Ahmad Sapari, Kasim Karib, Gan Wei Li, Darshan Kaur Siti Aisyah Binet Hashim
2	Turn On the Motivated Mind	Research studies have shown that a conducive classroom environment promotes students' academic achievement (Wong & Watkins, 1998; Griffith, 2002). According to Donna (1997), educators are recognizing the need for students to take an active role in the learning process. In order for students to take an active role in the learning process, they need to take responsibility for own learning and understand what they are learning. Support for teaching students the valid way of learning must be given to them by the teacher. This action research study adopts the work of Argyris and Schön's Model I to emphasize the necessary conditions for learning in class, namely, attention and focus and applies Model II to ensure students take responsibility for their own learning.	Manjusri Secondary School	Poh Chooi Choo Ling Ai Keow

3	Incorporating Yin and Yang Concepts in Secondary One Music Arrangements	At first reading you might be tempted to see this research paper as peripheral to music teachers' interests. Ostensibly, it is about the design of a music program. However, this research study does three very interesting things. Firstly, it gets to the core of what a music lesson is trying to do - revealing an innovative approach for using music to induce the innate "deep structure of universal grammar" resided in each student to learn a new subject or a new topic such as "Yin and Yang". According to Chomsky (1972, 1975, 1980) and Nadeau and Kafatos (2001), this "universal grammar" is an innate aspect of the neuronal organization of all human brains that explains how a child rapidly develop a sophisticated knowledge of grammatical rules and applications at the typical age of four despite the same child still has difficulty learning elementary arithmetic at this age. This research study attempts to make this process conscious. Secondly, it explores the three steps suggested by Huntley (1970) for making an aesthetic appeal to each student as well as for stimulating his or her own creative activities, for the experience of creating something new or uncovering some hidden beauty is one of the most intense joys that the human mind can experience. Finally, it demonstrates what one actually does when embarking on an action research journey.	Temasek Secondary School	Rebecca Soh Siow Ding

Maths

No	Title	Abstract	School	Author
1	How To Teach Pupils To Solve Mathematical Word Problems Using Model Drawing	This action research project demonstrates a two-stage strategy for teaching pupils in solving mathematical word problems that require model drawings. The first stage is a systematic breaking down of the problem sums into different sentences and a pupil is then expected to read them one by one in order to understand why the question is so formed. The second stage is practice in manipulations of these sentences that enable pupils to make a justifiable extension into associating each sentence with a relevant symbolic unit. The idea behind the second stage treatment aims to encourage pupils to adopt linguistic / language structures in stages just as they develop proficiency with language from oral to symbolic (reading and writing) in order to motivate them into a thorough study of the mathematical subject coupled with model drawing. Conversely, the second stage shows pupils how the mathematical concept can give a truer insight into the physical situation as described in word problems. The essence of this two-stage strategy is: " *It helps pupils to realize increasingly that their knowledge of mathematics must go beyond a nodding acquaintance with its notions and notations. Even if Mathematics is to remain merely a tool for them, they will never be its masters until they have understood why it is so formed and is practiced in its manipulations". Gardella.F.J(2009)*	East View Primary School	Sim Poh Meng Joseph, Nur Hasanah Osman, Ariel Zhuang Shuyi, Siti Hawa, Murugesu s/o Samarasan

2	A Framework for Teaching Volume of Revolution in Advanced Level Mathematics	Much Mathematics education research (Tall, D. O., 1991 and Brown, D., & Wheatley, G.1997) has highlighted the value of visualisation as well as the general weakness in visualisation skills in students doing Calculus. Teaching a topic that requires students to visualise shapes in three dimensions can be even more challenging - this is especially so for abstract Calculus topics such as finding volumes of solids of revolution. Our pre-lesson survey and tests showed that students have difficulties visualising solids and relating them to the correct definite integral expressions that evaluate their volumes. In this paper, we discuss how a teaching framework incorporating the Concrete-Pictorial-Abstract (CPA) teaching approach, a picture card game, technology and a collaborative learning environment were employed to help junior college students (Grade 11 and 12) understand this Cambridge General Certificate of Education (GCE) Advanced Level Mathematics topic better. At the end of the lessons which were conducted using our teaching framework, a post-test was conducted. Analysis of the data collected from the pre- and post-test indicated a significant improvement in students' performance in this topic.	Temasek Junior College	Yeo Chiu Jin, Ho Foo Him, Wong Chiu Min, Ahmad Mohamad Fazli, Ting Siew Choon, Leong Siew Kheng, Ng Lay Ling

Physical Education

No	Title	Abstract	School	Author
1	Improve the Standing Broad Jump scores of pupils through the use of Plyometrics in fitness and conditioning programme during Physical Education	One glaring area of weakness amongst the pupils taking the National Physical Fitness Assessment (NAPFA) test is the Standing Broad Jump. Pupils tend to lack power in their lower limbs to carry their weight forward. This research aims to address this area of weakness and employs plyometrics in the school's fitness programme to increase muscular power and performance in the Standing Broad Jump. The direction is motivated by research findings by professionals in the Sports and Physical Education circle. It is believed that the use of Plyometrics lead to a substantial increase in muscular power and performance in sports and muscular fitness. Subjects (Primary Four Level) of this research will undergo a customized fitness and conditioning programme using Plyometrics. Tests will be done and data will be collected before and after the implementation of the programme for data analysis and findings. Extending from the action research done in 2008, the research hopes to ascertain if the findings made last year is consistent with the cohort in 2009. The validation of this finding will add credence to the programme, making it effective and successful in helping pupils perform better in the Standing Broad Jump.	Griffiths Primary School	Kiew Kwok Fong Victor Jonathon Tay Clement Chan

Sciences

No	Title	Abstract	School	Author
1	Igniting Pupils' Enthusiasm in Learning Science through C.A.M.P.	This paper looks at effectiveness of an approach, "Learning Science through C.A.M.P". This approach focuses on helping less academically inclined pupils develop an enthusiasm and positive attitude towards the learning of science. This four-pronged approach is specially designed to accommodate and capitalise on pupils' learning strengths; Visual, Auditory and Tactile/Kinesthetic. The approach is summarised with the acronym C. A. M. P. which denotes **C**oncept cartoons, **A** ctions cheers, **M**indmaps and **P** uppets. This approach was first piloted in a primary five class for two consecutive years. Due to its observable positive impact on both the pupils and teacher, the approach was then formally carried out as an action research study in a number of primary three, four and five classes in the subsequent year.	Casuarina Primary School	Kay Cheng Hong
2	Teaching Science Through Multi-sensory Approach	This action research study focuses on how multi-sensory learning helps the Secondary Three triple-pure-science (namely, Biology, Chemistry, and Physics) students of Bedok North Secondary School (BNSS) to improve their application of science knowledge. This is a qualitative and quantitative study involving 40 students from an experimental class. The students were taught basic knowledge before setting off to embark on their respective projects. This research study lasted 2 terms (six months) and involved an integration of various science disciplines. Data was gathered from sources including pre- and post- perception surveys, students' and teachers' reflections. Problem Based Learning (PBL) was adopted as a tool to enhance the knowledge acquired	Bedok North Secondary School	Sunarti Mochtar, Fa'izah Osman, Haliza Haiyon, Lenny Marlina, Low Joo Yee
3	Integrating Modeling and Visualisation Technologies in Inquiry-Based Chemistry Learning: Teachers' Perspectives	This paper illustrates the collaboration between teachers from Coral Secondary School and researchers from National Institute of Education on the use of Action Research to integrate Modeling and Visualisation Technologies (iMVT) in Inquiry-Based Chemistry Learning. Our teachers have been working closely with the researchers to build on each others' strengths in order to carry out this Action Research effectively. This paper gives an overview of our intervention in class, illustrating how teachers collaborate with each other and how teachers collaborate with researchers in designing and enacting iMVT into the Chemistry	Coral Secondary School	Dewi Haryanti Hussein, Abu Sufyan Bedin, Professor Baohui Zhang, Xiaoxuan Ye

		curriculum, consolidating our findings and summarizing the benefits of our approach.		
4	Minding the Gap An Action Research Study on Student-awareness when Acquiring Inferencing Skills in Social Studies	When students are taught a skill in Social Studies, are they aware of their learning experience in acquiring the skill?" - This is the theme that prompted this Action Research Study, in particular, to look at what students think as they engage in their learning process, and the impact this has on individual's motivation and performance. Central to this study are students' responses to a set of questions in pre-test and post-test surveys that aim to capture individual's metacognition and attitude towards the learning event. This qualitative study involved 10 classes of Secondary 3 level over 4 weeks of lessons on inferencing skills in Social Studies. This research study explicates three important findings. First, there is a direct correlation between the level of learning awareness or metacognition on the efficiency in skill acquisition. Second, it is necessary for implementing learner reflection in classroom in order to enhance motivation and learning among students. Third, the "thought about thoughts" approach derived in this research study has established a framework for practice that utilises reflection as a motivation tool for students.	Victoria School	Kwok Siew Eng
5	Adapting the THINK Cycle© into first year Junior College Physics curriculum	The THINK Cycle© is a novel problem-solving pedagogy created and used by the Temasek Academy. With the THINK Cycle© in place, learning is shifted from content-learning tasks to ideas and content-creation by students. It is also a process-wise approach in which students are posed with engaging and difficult problems designed by teachers such that students can learn higher order and teamwork skills. (Albanese & Mitchell, 1993). In this research study, THINK Cycle© was employed in first year Junior College Physics curriculum to enhance students' perception and attitude towards Physics while maintaining academic rigour. Three out of six first year Junior College classes were exposed to adapted elements of the THINK Cycle© while the remaining three classes were taught using the traditional lecture-tutorial style. During lecture, the experimental groups were merged into smaller groups and taught in seminar rooms. This move is crucial as smaller classes permit a deeper use of pedagogical tools such as Socratic questioning, and group collaboration via Information Communications Technology (ICT) platform than lessons conducted in lecture theatre settings and inquiry activity. Fischer, Jacobs and Herbert's (2004) investigation demonstrated that small-group discussion was	Temasek Junior College	Varella Alan Joseph

		significantly favored over the traditional lecture format with benefits that include independent thinking, problem solving, and interaction with peers and instructors. The six classes were tested in an achievement test comprising traditional Physics pen and paper questions and in a perception survey. Despite the limited timeframe and resources allocated for this research study, the findings demonstrate that incorporation of THINK Cycle into Physics Curriculum does help the Medium-ability group of students that form the major bulk of students.		

Student Development

No	Title	Abstract	School	Author
1	Process Drama, a Panacea to Student Engagement in Character Education	Character education in schools plays an integral part in the character moulding of our students. Hence, character education lessons should be carefully planned and facilitated to ensure student engagement and to achieve the desired outcomes of secondary school education. This action research study examines the feasibility of adopting process drama as a pedagogical approach in delivering character education lessons. This approach enables students to acquire the moral values through active involvement and reflection instead of a didactic approach in lessons. The results as seen form a survey and feedback seem to be favourable and show that the students like the approach.	Chung Cheng High School (Main)	Cheong Yoke Leng, Clarissa Soh Lay Na, Lai Han Wei

Tamil Language

No	Title	Abstract	School	Author
1	Using Action Research to empower pupils' Imagination in Tamil Picture-guided Composition	This research study does three very interesting things. Firstly, it gets to the core of what a Tamil Picture-guided Composition lesson is trying to do - revealing an innovative approach for empowering students' imagination in picture-guided composition. Secondly, it explores the use of three-stage learning approach to build up students' confidence in writing picture-guided composition. Finally, it demonstrates what one actually does when embarking on an action research journey that involves four primary schools and leads by an experienced Action Research facilitator. The key findings and learning experiences acquired through this research study have provided teachers with new insights for teaching Picture-guided Composition in class as well as broadened and deepened teachers' understanding of Action Research.	St Hilda's Primary School	Veronica Lathar Naidu