	Research Outputs 2006							
No.	Research Title	Researcher	Division	Remark				
1	A CONTENT DRIVEN APPROACH	Cristina Schoonmaker	Humanities and Language	National Presentation, International Publication				
2	BELIEFS ABOUT LANGUAGE LEARNING AND STRATEGY USE OF THAI STUDENTS LEANING JAPANESE AND CHINESE LANGUAGES	Takayoshi Fujiwara	Humanities and Language	International Presentation				
3	CRITICAL THINKING VIA THE INTERNET TO SUPPORT A CLASSROOM-BASED COURSE IN HUMAN RIGHTS	Nicholas Ferriman	Humanities and Language	International Presentation				
4	CULTIVATION OF GIARDIA DUOENALIS IN MONGOLIAN GERBILS	Tantawiwattananon N , Sangloung C , Buddhirongawatr R , Sukthana Y	The office of Planning, Research, and Development	International Publication				
5	DESTINATION REJUVENATION STRATEGIES: THE POTENTIAL FUTURE FOR NEW TOURISM PRODUCTS/SERVICE OR EXPERIENCES	Sompong Amnuay-ngerntra, Naphawan Chantradoan, Kaewta Muangasame	Travel Industry Management	National Publication				
6	DETECTION OF TOXOPLASMA GONDII IN CAPTIVE WILD FELIDS	Buddhirongawatr R , Tantawiwattananon N , Sangloung C , Sukthana Y	The office of Planning, Research, and Development	International Publication				
7	EFFECT OF ESTIMATION RISK ON EFFICIENT SET: EVIDENCE FROM THAI STOCK MARKET	Sarayut Nathaphan , Pornchai Chunhachinda , Varumpa Temaismithi	Business Administration	International Publication				
8	EVALUATING IT-BASED OPERATIONS IN THE AIRLINE INDUSTRY: A CASE FOR ELECTRONIC TICKETING	Pisut Yuwanond	Travel Industry Management	National Publication				
9	EXPLOITING READING TEXTS USING "AUDITING	Nicholas Ferriman	Humanities and Language	International Presentation				
10	FIRMS' STRATEGIES AND NETWORK EXTERNALITIES: EMPIRICAL EVIDENCE FROM THE BROWSER WAR	Yingyot Chiaravutthi	Business Administration	International Publication				
11	HISTOLOGICAL EFFECTS OF CONTAMINATED SEDIMENTS IN MAE KLONG RIVER TRIBUTATRIES, THAILAND, ON NILE TILAPIA, OREOCHROMIS NILOTICUS	Piyanut Peebua, Maleeya Kruatrachuea, Prayad Pokethitiyook and Pahol Kosiyachinda	The office of Academic Affairs	International Publication				
12	HYDROGEN SULFIDE REMOVAL BY A NOVEL FIXED-FILM BIOSCRUBBER SYSTEM	S. Potivichayanona, P. Pokethitiyooka, M. Kruatrachuea	The office of Academic Affairs	International Publication				
13	"I HAVE A GOOD BOSS; HE LEAVES ME ALONE."	Jonathan Green	Humanities and Language	National Presentation				
14	IMMUNOLOCALIZATION OF CYTOSKELETAL COMPONENTS IN THE TEGUMENT OF THE 3- WEEK-OLD JUVENILE AND ADULT FASCIOLA GIGANTICA	T. Tansatit , S. Sahaphong , S. Riengrojpitak, V. Viyanant , P. Sobhon	Science	International Publication				

	Research Outputs 2006							
No.	Research Title	Researcher	Division	Remark				
15	IMPACTS OF NEWS ON STOCK'S RETURN VOLATILITY UNDER DIFFERENT ECONOMIC CONDITIONS: EVIDENCE FROM STOCK EXCHANGE OF THAILAND	Jiranart Sutthirat	Business Administration	National Publication				
16	IN SEARCH OF PREDATORY PRICING STRATEGY IN THE NETWORK INDUSTRY: A MULTIPLE PERIOD EXPERIMENT	Yingyot Chiaravutthi	Business Administration	National Publication				
17	IN VIVO CULTURE OF CRYPTOSPORIDIUM OOCYSTS FOR LABORATORY USE	Sangloung C, Buddhirongawatr R, Tantawiwattananon N, Sukthana Y	The office of Planning, Research, and Development	International Publication				
18	LEARNING LANGUAGE WITH GLOBAL ISSUES	Sean Gallagher	Humanities and Language	International Presentation				
19	LIVE WRITING	Nicholas Ferriman, Mark Rodell	Humanities and Language	National Presentation				
20	LOCATION-BASED TRACKING FOR SUSTAINABLE TOURISM	Narumon Sriratanaviriyakul	Travel Industry Management	International Presentation				
21	MOTIVATING WRITING: THE POWER OF CHOICE	Galon Melendy	Humanities and Language	National Presentation				
22	PERSONAL EPISTEMOLOGY OF THAI UNIVERSITY STUDENTS: CULTURAL INFLUENCE ON THE DEVELOPMENT OF BELIEFS ABOUT KNOWLEDGE AND KNOWING	Takayoshi Fujiwara, Brian Phillips	Humanities and Language	International Presentation				
23	PERSPECTIVES ON AMERICAN STUDIES	Dale Rorex	Social Sciences	International Presentation				
24	POPULAR DISCOURSE ON IDENTITY POLITICS AND DECENTRALIZATION IN TANJUNG PINANG PUBLIC SCHOOLS	Carole Faucher	Social Sciences	International Publication				
25	RANDOM WALK DOWN THE SET, CAN WE REALLY BEAT THE MARKET USING SIMPLE TECHNICAL ANALYSIS?	Jiranart Sutthirat	Business Administration	National Publication				
26	SCHISTOSOMA MEKONGI: THE IN VITRO EFFECT OF PRAZIQUANTEL AND ARTESUNATE ON THE ADULT FLUKE	Wannee Jiraungkoorskul , Somphong Sahaphong , Prasert Sobhon , Suda Riengrojpitak , Niwat Kangwanrangsan	Science	International Publication				
27	SIAMESE MODERNITY THROUGH THREE COUNTRY PALACES IN PHETCHABURI	Sompong Amnuay-ngerntra	Travel Industry Management	International Presentation				

Research Outputs 2006							
No.	Research Title	Researcher	Division	Remark			
28	SUSTAINABLE DEVELOPMENT MODEL OF VALUE ENGINEERING	Supphachai Nathaphan and Pattamon Jintanaponga, Sarayut Nathaphan	Business Administration	International Publication			
29	TEACHING PERSUASIVE SPEAKING	Douglas Lee Rhein	Humanities and Language	National Presentation			
30	THE ART AND CULTURE OF THAILAND	Charles Freeland	Humanities and Language	Academic Product			
31	THE ART OF BUNDLING: PRICE BUNDLING IN TOURISM BUSINESS	Naphawan Jane Chantradoan	Travel Industry Management	International Presentation			
32	THE NATURE OF DUAL AUTHORITY IN SOUTHEAST ASIA	Eugene Jones	Social Sciences	International Presentation			
33	THE PROFESSIONAL DEVELOPMENT FOR SUPPORT STAFF IN INTERNATIONAL PROGRAM: ENGLISH LANGUAGE CLASSES	Charles Windish	Humanities and Language	National Presentation			
34	THE TRENDS AND CHANGES OF HIGHER EDUCATION IN ASIA PACIFIC ENGLISH AS A DEGREE CONFERRING LANGUAGE	Chariya Brockelman	Office of the Director	International Presentation			
35	TOXICITY AND ACCUMULATION OF CADMIUM AND ZINC IN HYDROCOTYLE UMBELLATA	Sopit Panyakhana, Maleeya Kruatrachuea, Prayad Pokethitiyook, Varasya Soonthornsarathoon and Suchart Upatham	The office of Academic Affairs	International Publication			
36	TOXICITY AND BIOACCUMULATION OF CADMIUM AND LEAD IN SALVINIA CUCULLATA	Siriwan Phetsombat, Maleeya Kruatrachue, Prayad Pokethitiyook and Suchart Upatham	The office of Academic Affairs	International Publication			
37	TOXOPLASMOSIS: BEYOND ANIMALS TO HUMANS	Yaowalark Sukthana	Planning, Research, and Development Department	International Publication			
38	UPTAKE AND ACCUMULATION OF LEAD BY PLANTS FROM THE BO NGAM LEAD MINE AREA IN THAILAND	<ul> <li>P. Rotkittikhuna,</li> <li>M. Kruatrachue,</li> <li>R. Chaiyarata,</li> <li>C. Ngernsansaruay,</li> <li>P. Pokethitiyook,</li> <li>A. Paijitprapapornd A.J.M.</li> <li>Bakere</li> </ul>	The office of Academic Affairs	International Publication			
39	USE OF PULSE AMPLITUDE (PAM) FLUOROMETRY FOR IN SITU MEASUREMENTS OF PHOTOSYNTHESIS OF PORITES LOBATA	Wayne N. Phillips	Science	International Publication			

#### A CONTENT DRIVEN APPROACH

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Key words: Curriculum design, Course Development

This session is intended for administrators and teachers involved in curriculum design and implementation. Mahidol University International College (MUIC) and Kantana Media Entertainment have joined forces in offering three new programs in Animation, TV, and Film. This paper will present the process used in developing curricula that meets international standards while focusing on the linguistic needs of EFL learners. A framework of educational objectives, content, instructional strategies, and evaluative instruments will be explored and discussed. Participants will be provided with guidelines as well as factors to consider in developing a content driven program for an international college.

(Presented at: Thailand TESOL 2006, 19 – 21 January 2006, Chiang Mai)

#### ALTERATION OF THE BROOD POUCH MORPHOLOGY DURING GESTATION OF MALE SEAHORSES, *HIPPOCAMPUS KUDA*

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Key words: Alteration, Brood pouch morphology, Gestation, *Hippocampus Kuda* 

The brood pouch of seahorses can be divided into four sequential stages on the characteristics of the altered tissue layers during gestation: the normal stage, the embryo-carrying stage, the embryo-release stage and the repair stage. The brood pouch is composed of a folded inner pseudostratified columnar epithelium and a smooth outer stratified cuboidal epithelium. Three tissue layers between the inner and the outer epithelia are an inner loose connective tissue layer, a middle smooth muscle layer and an outer dense irregular connective tissue layer. In the normal stage, the inner loose connective tissue layer is thick and vascularised with enlarged blood vessels. In the embryo-release stage, the inner loose connective tissue layer is extensively vascularised with very large blood vessels and the smooth muscle fibres invade the outer dense irregular connective tissue layer. Structures altered during gestation gradually resume their normal condition in the repair stage. Extensive vascularisation of the brood pouch during gestation suggests an intricate paternal-embryo relationship implying other significant roles besides protective function of the pouch.

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#### BELIEFS ABOUT LANGUAGE LEARNING AND STRATEGY USE OF THAI STUDENTS LEANING JAPANESE AND CHINESE LANGUAGES

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**Key words:** Language learning beliefs, Learning strategy, Thai learners, Japanese language, Chinese language

The objective of this study is (a) to investigate the structure of language learning beliefs of Thai university students and these students' use of language learning strategies, and (b) to examine the relationships between these two variables. This research also explores whether there are significant differences among groups of students with different learning experiences, and demographic backgrounds, in terms of these two variables. 382 Thai students learning Japanese or Chinese as a foreign language at Thai universities completed a questionnaire, comprising Horwitz's (1997) Beliefs About Language Learning (BALLI), Oxford's (1990) Strategy Inventory for Language Learning (SILL). In the third part of the questionnaire, demographic data were obtained, and their past experiences regarding foreign language learning were also measured. Factor analyses identified six dimensions in the belief structure and seven dimensions in the strategy use. Significant differences were identified between groups of students with different secondary educational backgrounds. Students graduating from local Thai high schools are significantly different from those graduating from international schools and high schools abroad (mainly in English-speaking countries) along the strength of the language learning beliefs and the learning strategy use frequencies. This tendency was also found between two groups of students with different foreign language learning experiences. Students who have had learned any other foreign language before were significantly different from those without such experience. The study also found that language learning beliefs strength and strategy use frequencies were strongly related each other. Four of the six identified belief factors were highly linked to almost all the seven factors of strategy use. These findings suggest that prior learning experiences play a role in developing individuals' beliefs about language learning, as well as in shaping their learning behaviors. They also imply reciprocal relationships between language learning beliefs and strategy use, affecting and determining each other. Considering their potential influences on achievements and processes in language learning, some pedagogical implications from this research are discussed for language teachers.

(Presented at: 1<sup>st</sup> World Congress on the Power of Language: Theory, Practice and Development, Queen Sirikit National Convention Center, Bangkok, May 22-25, 2006)

# CRITICAL THINKING VIA THE INTERNET TO SUPPORT A CLASSROOM-BASED COURSE IN HUMAN RIGHTS

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Key words: On-line discussion forum, Human rights, Critical thinking

Mahidol University International College (MUIC) is Thailand's only liberal arts college. The medium of instruction at the college is English and students must study at least four trimesters of general education before going on to complete their majors. In the general education component students must complete at least four courses of English. One of these English courses is 'Exploring Global Realities', a content course in human rights.

In Exploring Global Realities, students use the academic skills argumentation, public speaking, writing term papers etc - learned in previous English courses to investigate the role of freedom and democracy in defending basic human rights. Course content includes short stories, films, and essays, which are used to investigate vital issues such as torture and genocide. These are also used to explore critical concepts, such as non-violent resistance and universal suffrage, and their role in the democratic process. As part of their assessment, students analyse key human rights documents, for example the Universal Declaration of Human Rights, and use these to assess human rights abuses around the world. The course concludes with a look at the evolution of the Thai Constitution and compares this to the experience of other countries around the world.

In my presentation I will describe how I use the on-line discussion forum 'Nicenet' to promote critical thinking and reflection, using topics that permit students to engage in the course content. I will give examples of students' contributions to Nicenet and show how I use their postings to feed back into classroom discussions to personalize the issues. Other features of the presentation will include the use of on-line 'links' from Nicenet to widen the exposure to information beyond what is covered in class, and the setting of related topics – e.g. The UN Security Council, the Convention Against Torture, The Rule of Law - for individual 3-minute speeches by students to inform their classmates.

(Presented at: 1<sup>st</sup> World Congress on the Power of Language: Theory, Practice and Development, Queen Sirikit National Convention Center, Bangkok, May 22-25, 2006)

# CULTIVATION OF GIARDIA DUOENALIS IN MONGOLIAN GERBILS

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Key words: Giardia trophezoite, Mongolian Gerbils

The Mongolian gerbil (*Meriones unguiculatus*) is susceptible to infection with *Giardia duodenalis* trophozoites. Each animal was orally infected with 0.5 ml Diamond's TYIS-33 culture medium containing  $10^6$  trophozoites. Cysts were then collected and concentrated by sucrose gradient centrifugation. *G. duodenalis* cysts were first observed in feces on day 5 post-infection. The characteristic of *G. duodenalis* infection in gerbils was intermittent cyst release. The range in the number of cysts released per gerbils for a 4-hour collection period was 0-1.5 x  $10^3$ .

(Published in: Southeast Asian J Trop Med Public Health. 2006; 37(suppl 3):21-23)

#### DESTINATION REJUVENATION STRATEGIES: THE POTENTIAL FUTURE FOR NEW TOURISM PRODUCTS/SERVICE OR EXPERIENCES

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**Key words:** Destination rejuvenation strategies, Destination life cycle, Health tourism crisis and risk management, New tourism product

Stagnating economic growth in many parts of the developed world, accelerated technological change, increasing intensity and speed of global competition and aging world population have led to premature aging and saturation in many tourism destinations calling for rejuvenation strategies in order to remain competitive and ward off declining tourism. The 2nd "Destination International Tourism Conference on Rejuvenation Strategies: The Potential Future for New Tourism products/ Services or Experiences" is aimed at analyzing the constraints in the destination development and deliberating on re-development of tourism destinations after crises. The purpose of this conference is to bring together researchers and all interested parties to share information, advance the knowledge forSince the economies of these areas heavily rely on tourism, loss of tourists' trust has made it worse. This report aims at giving an overall picture of The 2nd International Tourism Conference organized by Travel Industry Management Division, Mahidol University International College and the Center for Tourism and Service Economics, University of Innsbruck, Austria. The period of this conference was on March 2-3, 2006, and was held at the main auditorium, 3rd floor, Mahidol University International College (MUIC), Salaya, Nakhonpathom, Thailand.

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# DETECTION OF *TOXOPLASMA GONDII* IN CAPTIVE WILD FELIDS

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#### Key words: Toxoplasma gondii antibody, Epidemiology, Wild life

*Toxoplasma gondii* can infect all species of warm-blooded animals, including humans, and causes serious diseases in immunocompromized hosts. Live tachyzoites derived from serial passage in HeLa culture were used in the Sabin-Feldman dye test for detection of *Toxoplasma gondii* antibody in serum samples of 21 captive wild felids including one fishing cat (*Prion nailurus viverrina*), one leopard (*Panthera pardus*), two flatheaded cats (*Prion nailurus planiceps*), 6 tigers (*Panthera tigris*), two leopard cats (*Felis bengalensis*), two clouded leopards (*Felis nebulosa*), 3 pumas (*Puma concolor*), and 4 jungle cats (*Felis chaus*). Antibodies to *Toxoplasma gondii* were founded in 9 of 21 felids (42.8%). This study revealed that cell culture-derived tachyzoites can be used successfully as a source of live organism in a gold standard Sabin-Feldman dye test, which is simpler, cheaper and less ethically sensitive than *in vivo* inoculation.

(Published in : Southeast Asian J Trop Med Public Health. 2006; 37(suppl 3):15-7)

#### EFFECT OF ESTIMATION RISK ON EFFICIENT SET: EVIDENCE FROM THAI STOCK MARKET

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**Key words:** Estimation risk, Efficient portfolio, Bayesian estimation, Optimal portfolio

This study explores effect of estimation risk on admissible efficient set and optimal portfolio basing on analysis under Bayesian framework assumed diffused prior density distribution function. In this study, we perform a test whether the historical average return can be used to estimate true parameter or not. We found that historical average return is an inappropriate estimator. We assume that future asset returns follow multivariate normal distribution and form three states of analyses. Assuming true values of parameters are known in the first state, true variance-covariance of asset return are known but true average return are not know in the second state, and both true parameters are not known in the third state. The empirical results based on sectorial index of Stock Exchange of Thailand (SET) indicate that when estimation risk is taken into account, the admissible efficient set is not changed. Two conclusions The first conclusion is true portfolio return can be can be made. represented by weighted average sample returns. The second conclusion is that when estimation risk is built into a decision, portfolio risk is affected by a scale factor. Therefore, Bayesian admissible efficient set will always lie to the right of the traditional admissible efficient set due to higher risk from estimation.

(Published in: <u>http://www.AFBE.info</u>)

#### EVALUATING IT-BASED OPERATIONS IN THE AIRLINE INDUSTRY: A CASE FOR ELECTRONIC TICKETING

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**Key words:** Electronic ticketing, Ticketless travel, Non-probability sampling

During the late 1990s, the airline industry, led by the U.S. airlines, began to emphasize selling air tickets directly to customers in the form of "Electronic Ticket"

(E-Ticket) without passing through travel agents. Airline companies realized that the implementation of "Electronic Ticketing" (E-Ticketing) could lead to significant savings in ticket distribution costs, and increased net revenues. This research was a formal study that tested the hypothesis: "Airlines can increase their net income and reduce their operating costs by implementing eticketing". The researcher collected data from both primary and secondary sources. The primary data was gathered by conducting a survey of 100 managers and professionals, using questionnaires, from 20 airlines offering the e-ticketing service. The secondary data was collected from various journals internationally recognized. The research was descriptive, and its time dimension was cross-sectional. The t-test was used for testing the hypothesis and significant investigative questions on the questionnaires. The researcher employed a nonprobability sampling technique, which utilized a quota sample of managers and professionals from those airlines. Based on the findings from review of the literature and the survey, the researcher was able to prove that airline companies can increase their net income and reduce their operating costs by implementing e-ticketing

(Published in: The E-Journal of International Thai Tourism & The Annual of International Thai Tourism, 2006; 1:300-311)

#### **EXPLOITING READING TEXTS USING "AUDITING"**

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**Key words:** Extensive reading, Second language acquisition, Bottomup processes, Auditing

Reading is recognized as a powerful tool for second language acquisition. However, in many countries a reading culture is confined to an educated minority, and most people do not read for pleasure. Extensive reading in these circumstances is not a good use of classroom time. Bottom-up processes which focus more on the language of a text, rather than just the meaning, do offer a constructive approach to dealing with reading texts in class. "Auditing" is one such approach.

Students need practice in matching sounds to the printed word. If they are unable to do this, they will not see the written words on the page. Their "search patterns" will very likely miss those words they cannot pronounce: how can a memory of a word be stored and retrieved if its pronunciation is not known? Auditing involves simply matching the sounds of words with their written form. It is as easy as that. Auditing is concerned with developing the "inner voice". All the activities in this workshop will demonstrate how this can be done.

(Presented at: Loa TESOL 2006, 17 March 2006, Vientienne, Laos)

#### FIRMS' STRATEGIES AND NETWORK EXTERNALITIES: EMPIRICAL EVIDENCE FROM THE BROWSER WAR

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**Key words:** Browser, Network externalities, Firm strategy, Predatory pricing, Bundling

This paper analyzes adoption decisions of Internet browser software with the focus on firms' strategies and market consequences, and the existence of network externalities. Since the early 1995, Microsoft employed many strategies in order to diminish the popularity of Netscape's Navigator and Communicator. Microsoft's Internet Explorer finally won the war in 1999, but this led to the antitrust lawsuit. Based on the GVU WWW User Survey data in 1997 and 1998, the results from logit models show that network externalities existed in Navigator and Communicator although they were diminishing through time. The success of Internet Explorer was driven by Microsoft's free and bundling strategies, not by the product itself nor by network externalities.

(Published in: Journal of High Technology Management Research, 2006; 17:27-42)

#### HISTOLOGICAL EFFECTS OF CONTAMINATED SEDIMENTS IN MAE KLONG RIVER TRIBUTATRIES, THAILAND, ON NILE TILAPIA, OREOCHROMIS NILOTICUS

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**Key words:** Histological effects, Contaminated sediments, Mae Klong river, *Oreochromis niloticus* 

Histopathological biomarkers of toxicity in fish organs are a usful indicator of environmental pollution. Nile tilapia, *Oreochromis niloticus* exposed for one month to sediments from the Mae Klong River, Samutsongkram province, South West Thailand, which contained elevated levels of heavy metals (lead and chromium), developed abnormalities of the gills, liver and kidney. In the gill filaments, cell proliferation, lamellar cell hyperplasia, and lamellar fusion were observed. In the liver, there was vacuolation of hepatocytes and nuclear pyknosis. Kidney lesions consisted of dilation of Bowman's space and accumulation of hyaline droplets in the tubular epithelial cell. No recognizable changes were observed in muscle tissue. Despite these histopathological changes, no firm correlation between levels of heavy metals in sediments and those in fish tissues could be established.

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#### HYDROGEN SULFIDE REMOVAL BY A NOVEL FIXED-FILM BIOSCRUBBER SYSTEM

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Key words: Hydrogen sulfide removal, fixed-film, Bioscrubber system

The fixed-film bioscrubber was developed for hydrogen sulfide removal. *Acinetobacter* sp. MU1\_03 and *Alcaligenes faecalis* MU2\_03 are two new strains of microorganisms from the fixed-film bioscrubber systems found. Under certain conditions, they exhibited more than 91% of hydrogen sulfide removal efficiency while a mixture of the two strains was capable of 98% hydrogen sulfide removal. Removal efficiency increased with decreasing inlet gas flow rates, increasing the height of packing and empty bed retention time. During the operation, the pH decreased but did not fall below 6.4. Sulfate production increased when the removal efficiency increased due to the oxidation of hydrogen sulfide to sulfate. In addition, dissolved oxygen decreased during the same reaction.

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#### "I HAVE A GOOD BOSS; HE LEAVES ME ALONE."

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**Key words:** Leadership, Educational Management, Professional Development, Situational Leadership

As the ESL field has become increasingly concerned with professional development, managers in many of Thailand's language institutes and schools have adopted mentorship and observation schemes to achieve this end. Teachers, however, often resent these "intrusions" into their classrooms, often seeing them as pointless or threatening. Are such schemes really suitable to all ESL settings? This presentation considers the question from the perspective of leadership theories that take into account the "maturity" of the teachers involved, and argues that a "one-best-way" approach to professional development may actually be counterproductive. At times it may well be best to "leave teachers alone".

(Presented at: Thailand TESOL 2006, 19 – 21 January 2006, Chiang Mai)

#### IMMUNOLOCALIZATION OF CYTOSKELETAL COMPONENTS IN THE TEGUMENT OF THE 3-WEEK-OLD JUVENILE AND ADULT FASCIOLA GIGANTICA

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Key words: Cytoskeletal elements, *Fasciola gigantica*, Immunofluorescence and immunoperoxidase techniques, S. mansoni

Components of three cytoskeletal elements, namely, microtubule, intermediate and actin filaments have been localised in the tegument of the 3-week-old juvenile and adult *Fasciola gigantica* by means of immunofluorescence and immunoperoxidase techniques, using mouse monoclonal anti-alpha-tubulin, anti-cytokeratin antibodies and biotinylated-phalloidin, respectively. The immunostainings with the above probes were also performed in adult Schistosoma mansoni for comparison. The presence of tubulin, indicative of microtubules, was demonstrated in the tegumental cell bodies, their cytoplasmic processes, and the basal layer of the tegumental syncytium of *F.gigantica*. While in S. mansoni, tubulin appeared as vertical lines stretching across the whole thickness of the syncytium. Cytokeratin, representing one type of intermediate filaments, was detected in the tegumental cell bodies, their cytoplasmic processes, tegumental syncytium and apines of *F. gigantica*.

In contrast, cytokeratin was evident only in the syncytium of *S. mansoni*, but not in the spines. Phalloidin, which could bind to actin, a subunit of microfilament, was detected in the tegumental cell bodies, their processes, and the microtrabecular network which form the scaffold of the tegumental syncytium of *F. gigantica*. In *S. mansoni*, actin was localized in similar tissues except the syncytium was not stained while spines exhibited intense staining. In *F. gigantica*, the presence of microtubules and actin filaments in the tegumental cells, their processes and in the syncytium could mediate the movement of secretory granules from the cell bodies towards the basal as well as the apical layer of the tegument. Cytokeratin filaments may serve to reinforce the integrity of the tegumental syncytium as well as the spines.

(Published in : Veterinary Parasitology, 2006; 135:269-278)

### IMPACTS OF NEWS ON STOCK'S RETURN VOLATILITY UNDER DIFFERENT ECONOMIC CONDITIONS: EVIDENCE FROM STOCK EXCHANGE OF THAILAND

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#### Key words: Volatility, GARCH

Not only is a well-specified model required in estimation of financial market volatility, sample period used in such estimation is needed to represent only one economic condition. This paper uses the ARCH-class models to show that using symmetric model over sample period covering more than one economic condition could mislead the volatility estimates. This is because investors perceive differently between good and bad news, which are factors determining volatility. During period full of good news as Thai economic was stellar, another good-news would not surprise investor as much as bad news. On the other hand, over period market clouded by many bad news as in recession period, investors are pessimistic and do not expect any good news. Using the day Thailand floated the baht as change in economic condition, this paper finds evidence suggesting that the impact of good and bad news are diverse under different economic conditions. As a result, to predict market volatility, practitioners and researchers need to be careful in selecting the sample period by excluding sample under one economic condition from another. Moreover, the volatility estimators used in such estimation should be asymmetric in which difference between good and bad news is captured. Otherwise, the volatility estimates could be misleading.

(Published in: Journal of Economics, Chiang Mai University, 2006; 1: 44-59)

## IN SEARCH OF PREDATORY PRICING STRATEGY IN THE NETWORK INDUSTRY: A MULTIPLE PERIOD EXPERIMENT

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**Key words:** Predatory pricing; Network externalities; Entry deterrence; Firm strategy

This paper reports data from an experiment confirming the existence of predatory pricing in the presence of network externalities when the technology of competing firms are identical. An experiment was conducted based on a seven-period and one-market design. Subjects were recruited and assigned a role as seller before they were paired together randomly and played the game for two rounds. Sellers were classified into superior and inferior sellers where sellers' superiority came from buyers' willingness to pay. Buyers were simulated and had different, preprogrammed preferences over the goods offered by two sellers. In each period, subjects had to make an entry decision and a price decision in a posted offer market institution. The sub-game perfect Nash equilibrium is for superior seller to engage in predatory pricing and for inferior seller not to enter the market. The observations strongly support the presence of predatory pricing. Additionally, the predatory pricing strategy was quite effective in driving rivals out. Unexpectedly, predation was evidently pursued by both superior and inferior sellers, and inferior sellers also had a chance to dominate the market. It can be concluded that predatory pricing strategy exists in the market that exhibits network externalities, and this strategy is quite powerful in elminating competitors.

(Published in: Journal of Yala Rajabhat University, 2006; 77-88)

# *IN VIVO* CULTURE OF *CRYPTOSPORIDIUM* OOCYSTS FOR LABORATORY USE

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#### Key words: Cryptosporidium culture, Animal model

In the present study, we describe *in vivo* cultivation to produce oocysts. Seven-day-old mice were orally infected with 100,00120,000 *Cryptosporidium* oocysts. On day 8 post-infection, the mice were killed by ether, and the small and large intestines collected. A simple extraction procedure was used and purified using Ficoll gradient centrifugation. After purification, the oocysts were preserved in phosphate buffered saline with antibiotic at 4°C before use.

(Published in: Southeast Asian J Trop Med Public Health, 2006; 37(suppl 3):18-20)

#### LEARNING LANGUAGE WITH GLOBAL ISSUES

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**Key words:** Content-based course, Human Rights, Universal Declaration of Human Rights, Language teaching

This presentation will examine Exploring Global Realities, a core English course taught at Mahidol University International College, an international arts college for undergraduate students in Thailand. This course is the final core course of the English program. The academic purpose of the course is to appraise students' written and oral presentation skills acquired in the English Communication core courses through course themes based on global issues. These global issues include freedom, democracy, human rights, genocide, and non violent resistance

This presentation will focus on the unique methodology we use in exploring these global themes. For example in dealing with the theme human rights, students first read selected short stories. After a complete analysis of the theme of the short story, the students then analyze the Universal Declaration of Human Rights, and associated human rights standards. They then use the standards to create an argument showing the human rights abuses in the short story. This argumentative process is then applied to a country with questionable human rights policies. These arguments are presented to the class and a written paper is submitted for grading. In this way students demonstrate the written and oral skills acquired in the previous English Communication courses but on contemporary global issues.

Similar methodology is used to analyze other themes of the course. Because this is a content-based course, the presentation will pay particular attention to the choice of materials and how these materials link the themes of the course together.

Lastly a discussion of problems and applicability of the course will conclude the presentation.

The presenter will show how the effective teaching of language, coupled with an awareness of global issues, will produce a cadre of citizens who are repulsed by discrimination, ignorance and intolerance and are equipped to intellectually demand a better society for all citizens of the world.

(Presented at: 1<sup>st</sup> World Congress on the Power of Language: Theory, Practice and Development, Queen Sirikit National Convention Center, Bangkok, May 22-25, 2006)

#### LIVE WRITING

Nicholas Ferriman, Mark Rodell

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Key words: Modeling, Compose, Editing, Live

This presentation will demonstrate that with the availability of a computer connected to a projector, teachers can, with the input of students, model the process of writing the elements of a composition. This modeling, in brief, requires a class (teachers and students) to compose together on a computer and project the output on a screen for all to see. Editing (grammar corrections, re-organization, additions, deletions etc) takes place "live" in front of the participants

(Presented at: Thailand TESOL 2006, 19 – 21 January 2006, Chiang Mai)

#### LOCATION-BASED TRACKING FOR SUSTAINABLE TOURISM

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**Key words:** Location-Based Tracking, Activity Monitor, Recreational Opportunity Spectrum, Radio Telemetry, Sustainable Tourism Management, Carrying Capacity Management

The tourist destinations can be defined as an extensive wooded area with limited reach of utility services, commonly known as National Parks. These are distinctive areas and are heavily covered with trees hindering visual supervision. Monitoring of tourists and their safety by National park officers can be undertaken while making sure that they are exploring the designated areas and not entering prohibited areas. This is introduced by utilizing the design behind Location-Based Technology to use in tracking tourists roaming in various areas of the national park.

The idea is that the tracking ability of any individual tourists can be executed and the park officers can monitor their activities and are able to receive any types of distress signals to be designed to be incorporated within the system. The uniqueness of this concept is the utilization of location based technology and a Geographic Information System to provide a transparently safe tourism tracking and monitoring system within the park area. The proposed concept of the system illustrates how national parks, as users, can utilize the concept to track tourists. The system would be especially designed to accommodate sustainable tourism and as the trend of ecotourism and the number of tourists is increasing, such a system should prove invaluable. The ability to send a distress signal and the ability to track individual tourists is an example of the fundamental concept of how the system can be utilized.

The topic presented in this paper will fully explain the concept and include the theory of Location-Based Technology and the concept of tracking application, potential outcomes from the application and further design considerations as add-ons to the concept, scenarios of the application usage, and the technology requirements.

(Presented at: Asia-Euro Tourism, Culture & Gastronomy Conference 2006 "West Meets East: A Recipe of Success in this Era of Globalisation?", Taylor's College, School of Hospitality & Tourism, Petaling Jaya, Malaysia on 9-10 November 2006)

#### MOTIVATING WRITING: THE POWER OF CHOICE

Galon Melendy

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Key words: Action Research Motivation Education

This presentation will show the results of a research project at Mahidol University International College conducted during the 2004/2005 academic year. The rationale for this study was to test an approach for increasing students' motivation to write longer compositions and put more effort into their writing development. If students are presented with choices to select easier or more difficult tasks, what choices will they make? This presentation will outline the findings of the research and propose a useful approach to curriculum development that can boost student motivation for writing tasks in the classroom.

(Presented at: Thailand TESOL 2006, 19 – 21 January 2006, Chiang Mai)

#### PERSONAL EPISTEMOLOGY OF THAI UNIVERSITY STUDENTS: CULTURAL INFLUENCE ON THE DEVELOPMENT OF BELIEFS ABOUT KNOWLEDGE AND KNOWING

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Key words: Beliefs about knowledge and knowing, Cultural and educational influence, Student development

The objective of this study is: (a) to investigate the structure of personal epistemology of Thai university students, and (b) to examine whether there is a significant difference in their personal epistemology between groups of students with different secondary educational backgrounds. A questionnaire, asking participants to indicate how they agree or disagree to statements on knowledge and knowing, was administered to first-year students at a university in Thailand. Through factor analysis, three dimensions were identified: Fixed Ability, Stable Knowledge, and Simple Knowledge. However, the factor structure was complex, and the items representing different conceptual dimensions were merged into the same factors. This finding appears to confirm a dimensional structure of the Thai university students' personal epistemology, yet it requires further investigations to clarify the nature of relatively independent dimensions. Significant differences were identified among groups of students differing in educational backgrounds. The students graduated from schools abroad and international schools were significantly more epistemologically developed than those graduated from local Thai schools. Similarly the students intending to major in science had significantly more epistemologically developed beliefs than the prospective arts and business majors. These results suggest that culture through education influences the development of perspectives toward knowledge and knowing.

(Presented at: The 2006 HERDSA International Conference, The University of Western Australia, Perth, on 10-13 July 2006)

#### PERSPECTIVES ON AMERICAN STUDIES

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Key words: American literature, American life, Institutions

The widespread interest in American Studies that is now accelerating in Southeast Asia at the post-secondary level originated in the form of background studies for students of American literature. The presentation, usually through lectures of factual information about American life and institutions, was designed to teach students about the social, economic, and political background to the great works of literature they were studying. This, however, often led to the problem of how to relate this historical information to the realities of contemporary American culture. A further problem has arisen with the rapid expansion of Englishlanguage teaching in the ASEAN region over the past fifteen years, since this has sometimes triggered the belief that cultural studies constitute a mere topping up or supplement to language studies rather than an area worthy of study in its own right.

The danger for academics in the university is to fail to respond to the need for innovative curriculum design where literature courses were previously the purveyors of American culture. Maintaining old-style programs and renaming them American Studies or American Multicultural Studies may appear to be a short-term solution, but in the longterm will be counter-productive.

(Presented at: 7th ASEAN Inter-University Seminar on Social Development at The Central Building of the Vietnam National University, Hanoi, Vietnam on 19-21 July 2006)

#### POPULAR DISCOURSE ON IDENTITY POLITICS AND DECENTRALIZATION IN TANJUNG PINANG PUBLIC SCHOOLS

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Key words: Education, Indonesia, Malay Identity, Nationalism, Riau Archipelago

This paper explores the discrepancies between the official rhetoric on Malayness and the emerging discourse on national identity among the urban Malay (Melayu) youth of the Indonesian province Kepri. The population of the Riau Archipelago is multiethnic, with Malays as the majority and Kepulauan Riau represents an important historical center for the whole Malay World. Because of this, local leaders have engaged this newly formed province in a series of attempts to revitalize a transnational ethnic awareness based on an inclusive Malay identity framework. However, most of the students I met during my recent fieldwork in Tanjung Pinang's public schools tend to reject most ideas of reinforcing the bridge with the Malays of neighbouring nations, and prefer to perceive themselves primarily as Indonesian. This should not come as a surprise. Since 1998, the popular culture scene has been largely influenced by reformasi movements all over Indonesia. For the Tanjung Pinang youth, urban Indonesia, represented especially by Jakarta, is synonymous with dynamism and democratization, while Malaysia and Singapore are regarded as moralistic and patronizing.

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#### RANDOM WALK DOWN THE SET, CAN WE REALLY BEAT THE MARKET USING SIMPLE TECHNICAL ANALYSIS?

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This study examines the potential benefit of employing the most commonly used Technical trading strategies on the Thai stock market. The study is based on the Stock Exchange of Thailand (SET) Index over the period of April 1975 to April 2006. Two hundreds and eighty eight different moving average and eighty different trading range break trading models are assessed. The findings reveal the predictive ability of technical trading rules. In the presence of transaction costs which are measured through our new method, results show that both variable-length and fixed-length moving average rules generate extra returns as compared to the buy-and-hold strategy. The trading-range-break rules, even though have return predictability, in some cases underperform the buy-and-hold strategy due to an inability to generate enough return to compensate for the commission fee.

(Published in: Journal of Economics, Chiang Mai University, 2006; 117-36)

#### SCHISTOSOMA MEKONGI: THE IN VITRO EFFECT OF PRAZIQUANTEL AND ARTESUNATE ON THE ADULT FLUKE

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Key words: Schistosoma mekongi, Praziquantel, Artesunate, In vitro effect

The efficacy and tolerance of 80  $\mu$ g/ml praziguantel (PZQ) and 40  $\mu$ g/ml artesunate (ATS) against adult stage Schistosoma mekongi in vitro were investigated after 3, 6, 12 and 24 h incubation by monitoring worm motility and compared tegumental changes using scanning electron microscopy (SEM). Thirty mice were infected with S. mekongi cercaria for 49 days. Adult worms were collected by perfusion method and prepared for in vitro study. Contraction and decreased motor activity were observed after as little as 3 h incubation with PZQ and ATS. Some of the worms were immobile 12 h after exposure, and died within 24 h. The tegument of S. mekongi showed severe swelling, vacuolization and disruption, fusion of the tegumental ridges, collapse and peeling. After 12-24 h incubation, PZQ induced similar but they less severe, tegumental changes to those observed after exposure to ATS. The direct observation of the fluke motility and SEM study suggest that ATS is more effective than PZQ in causing tegumental damge in adult S. mekongi, and provides a basis for subsequent clinical trials.

(Published in : Experimental Parasitology, 2006; 113:16-23)

#### SIAMESE MODERNITY THROUGH THREE COUNTRY PALACES IN PHETCHABURI

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This article investigates an interpretation of three respective Siamese leaders' visions of modernity through the medium of three static palaces in Phetchaburi: Phra Nakhon Kiri (the Hilltop Palace) of King Mongkut, Phra Ram Ratchanivej (the Gunner Palace) of King Chulalongkorn, and Mrigadayavan (the Seaside Palace) of King Vajiravudh. The architectural forms of these three palaces have a great value in setting out what is known about the three kings' intentions, values, and personalities influenced by 'the West' during the transition of Siamese modernisation until the end of royal absolutism in 1932.

To complicate any research methodology, the evidence of the three kings' political visions is relatively abstract and difficult to interpret properly. In a sense as a detective, the study attempts to seek clues based on past socio-political phenomena and to sort out to what extent political visions are embedded in the architectural forms of the country palaces, and why? At the hilltop palace, King Mongkut used hierarchically traditional architecture as a means of bolstering national pride and legitimising claims to the right of kingship. Simultaneously, a political position of Siam as a modern state was manifested through the European-Sino-Siamese hybrid architectural style in the mid-nineteenth century. Also, the bell-shaped pagoda within the site complex reflects his religious reforms for the sake of upgrading monastic practices and purifying the canon. His reformed Buddhist sect, Thammayut, is characterised as a rational, intellectual, and humanistic approach. Such religious reform was integrated with scientific knowledge, which he had learned in his contact with the Christian missionaries while in his monkhood and later as king.

King Chulalongkorn created a modern nation-state in response to the aggressive expansion of European imperialism, especially in the 1890's. Being influenced by Kaiser Wilhelm II's palace in Germany, the king manifested his 'global views' of civilisation and modernisation through the Jugendstil or Art Nouveau architectural style at the Gunner Palace. Also, the site reflects the Siamese-German diplomatic relationship while countering the colonial powers, especially France and Britain.

The seaside palace discourses the conceptual synthesis of Siamese and Western cultural experience whereby parallel to his nationalistic policy. King Vajiravudh enthusiastically attempted to revive the spirit of traditional architecture coupled with Western amenities and modern technology. This royal veranda bungalow also reflects the king's personality, lifestyle, and taste influenced by English culture through his formative education in Britain.

The empirical study yields three major insights.

1. There is a first methodological problem as it is impossible to directly ask questions of the three kings but one must rather find and document the material evidence of past socio-political situations and then deduce their visions. However, the study of political vision is relatively abstract and difficult to be interpreted validly and reliably because of incomplete and imprecise information, a strong reliance on inference, and difficulty in scientific method. Therefore, how to impute intentions, values, and personality from architectural buildings that now have no 'life'? How to validate the research result?

2. The study encompasses a wide range of specialties and subdisciplines that attempt to foster an understanding of the transit of Siamese modernity. To understand the complex interplay between the three kings and three palaces, it is important to have holistic knowledge of other disciplines, especially socio-political history and architectural history in Thailand. So how to write three, essentially disconnected stories of three reigns as a continuum? How to bridge the gaps between political policies, personalities, and architectural expressions?

3. Underlying there is an epistemological problem: the way of seeing the world changed radically over these 74 years (1851-1925). There were absolute shifts in the way that Thai knowledge and modernity were being constructed variously in accordance with and in reaction to Western influences.

(Presented at: International Symposium on Architecture in the Land of Suvarnabhumi (ISALS), The Royal River Hotel, Bangkok, Thailand, 3-4 August 2006)

### SUSTAINABLE DEVELOPMENT MODEL OF VALUE ENGINEERING

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#### Key words: Value Engineering

Energy cost is accounted for the largest portion of production cost in any industry. Energy cost saving can be done via using energy efficiently. Motivation of this study is to develop mechanism in using energy Development "Sustainable Model efficiently called of Value The sustainable development model is developed by Engineering." integrating Value Engineering concept, Quality Control Circle concept Three major steps in developing a and Juran's Trilogy concept. sustainable development model of value engineering are i) Planning ii) Controlling and iii) Improvement process, which lead to sustainable value in engineering application. By gathering facts and information among working members, actual problem and jurisdiction of each party are defined. Implication of the model is to define problem for each working group in an organization for all level. After problem is defined, solution to a particular problem can be done via brain storming under the premise that "What can be done or replaced in order to enhance or retain level of efficiency at lower cost?" Result from experimental study conducted with selected factory applying sustainable development model of value engineering in energy saving using forklift in raw material logistic within a factory indicates that our suggestion has reduced energy cost drastically. Therefore, our proposal has been approved and implemented as administrative committee expressed that thinking and analytical process are sound and valid due to responsible party has been clearly assigned.

(Presented at: The 7th Asia Pacific Industrial Engineering and Management Systems Conference 2006, Intercontinental Hotel, Bangkok on December 17-20, 2006)

#### **TEACHING PERSUASIVE SPEAKING**

#### Douglas Lee Rhein

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Key words: design and implementation of a persuasive speaking course

This presentation will discuss the design and implementation of a persuasive speaking course at Mahidol University International College. The original design was based on the need to offer advanced speaking skills courses and to teach debate at a university level. The course has since evolved to incorporate the use of basic psychology and audience analysis to increase the persuasiveness of speakers regarding questions of fact, policy and value. This presentation also discusses some of the problems associated with changes in course design and effectiveness of CD-ROM, DVD, video cameras and internet technologies as tools to demonstrate strong/weak persuasion strategies.

(Presented at: Thailand TESOL 2006, 19 – 21 January 2006, Chiang Mai)

#### THE ART AND CULTURE OF THAILAND

Charles Freeland

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### ABSTRACT NOT AVAILABLE

### THE ART OF BUNDLING: PRICE BUNDLING IN TOURISM BUSINESS

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**Key words**: Package holidays, Price bundling, WTP or RP, Customer demand satisfaction, Swedish tourists

This topic has arisen from the interest in pricing strategies in tourism sectors and the study of managing package tourism to satisfy demands of potential clients. The study of pricing in tourism business has started long before, however for the more intimate study on price bundling seems to be very little comparing to other service sectors. As the connection between pricing and profitability is fundamental, the understanding of price bundling is prominent.

The main proposal of this paper is to investigate the pricing and bundling activities which in turn affect the total perceived quality of package tours. There is a mutual interest for the business sectors, tourism authorities and the local suppliers in Phuket, a very well-known beach destination in Thailand, to upgrade the destination and find out the possibility to repackage Phuket for the major group of customers - European markets. Therefore, there is a need to study deep down to discover whether or not the all-inclusive holiday packages would match the needs of European travelers.

This study particularly analyzed the behaviors and the attitudes of the Swedish tourists who are now becoming the major customers of Phuket, and used bundling technique to create the optimum holiday packages according to their preferences. The discussions were mostly in the economics and marketing directions. A case study of a travel agency was introduced in this paper to illustrate how packaging principle and price bundling strategies can be applied.

The outcomes of empirical findings verified that price is the most significant factor which influences purchasing decision of the Swedish travelers towards package tour to Phuket. The Swedes perceive that purchasing an All-inclusive package (consisting of all products in one package) is more valuable than paying for an individual component. However, it was also found that the Reservation Prices (RP) of the Swedes towards their preferred activities exceeded the reference market prices which indicated the possibility to charge at a high markup for some products. Derived from the interviews, surveys, literature and observations of Swedish tourists' travel behavior, sightseeing, spa and diving are proved as preferable elements for package tours to Phuket.

The study finally concluded that the tour operators should implement mixed-bundling as the optimal strategy in packaging holidays for the Swedish tourists. This can reduce heterogeneity through selling one bundle products (all-inclusive) with discounted price in order to capture more customers, while those individual products can also be purchased separately with higher prices to collect high markups.

(Presented at: Fifth Asia Pacific Forum for Graduate Students Research in Tourism, Bangkok, Thailand, September 20 - 22, 2006)

#### THE NATURE OF DUAL AUTHORITY IN SOUTHEAST ASIA

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Keywords: Dual authority, Party, Government

Many of the nations of Southeast Asia that are moving towards greater democracy have to deal with the phenomenon of dual authority. Dual authority is the recognition by the people that there is a political institution that commands respect and obedience in addition to the government. In the monarchist nations of Thailand and Kampuchea, this dual authority is vested in state and government. In the Socialist countries of Vietnam and Laos, it is vested in party and government. In some other states the extra governmental authority takes the form of a religious institution.

Dual authority has the disadvantage of impeding political and economic development in many cases. However, it has the advantage of providing a structure that provides a check on excessive government power and that the people can appeal to during times of political crises.

In this paper, I will examine the phenomenon of dual authority in Southeast Asia in general. Then I will turn my attention to specific studies of how this phenomenon is affecting the politics of Vietnam. I will argue that the party provides a viable and just check on unbridled development and consumerism there that would not be the case if authority were left to government alone.

In concluding remarks, I will assess the relationship between party and government and evaluate future possibilities.

(Presented at: 7th ASEAN Inter-University Seminar on Social Development at The Central Building of the Vietnam National University, Hanoi, Vietnam on 19-21 July 2006)

#### THE PROFESSIONAL DEVELOPMENT FOR SUPPORT STAFF IN INTERNATIONAL PROGRAM: ENGLISH LANGUAGE CLASSES

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**Key words:** ESP (English for Special Purposes), Professional Development

The development of International Programs and International Colleges has created a need for a group of academic support staff who possess good English language skills. The workshop, **Professional Development for Support Staff in International Programs: English Language Classes**, will present the program that was developed for Thai staff at MUIC. The presenter will discuss the rationale for the professional development program, the goals and objectives, and the curriculum that was developed for the class. The workshop will be practical, and participants will develop a model with support materials that can be used at their own colleges and universities.

(Presented at: Thailand TESOL 2006, 19 – 21 January 2006, Chiang Mai)

#### THE TRENDS AND CHANGES OF HIGHER EDUCATION IN ASIA PACIFIC ENGLISH AS A DEGREE CONFERRING LANGUAGE

Chariya Brockelman

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The current shift of policy in higher education in Asia Pacific is towards international education. Governments encourage state and private universities to establish "international programs" to attract students from foreign countries, hoping that their countries will become an educational hub. Thus English, which is already widely used in this region, is selected as a medium of teaching.

This presentation will discuss whether the teaching in English alone assures the success of programs and future of graduates. Surveys of employers' satisfaction as well as on employment of Mahidol University graduates who entered the job market in year 2004 and 2005 were carried out. Although Mahidol University graduates enjoy very good employment prospect and spend usually not more than six months between graduation and their first job, graduates from international programs of the same university are usually employed within three Thirty percent of Mahidol University months after graduation. International College graduates obtained employment one month before graduation. From 85 respondants out of 239 enquired, employers' requirements for new recruits can be lists in order of priority as follows: English proficiency(26%), maturity and self confidence (18%), good team player (16%), knowledge of the field (15%), innovativeness (13%), emotional quotient (12%). Results of the survey show that English proficiency attributed only one fourth of success. When compared with graduates from other universities having studied in Thai-language programs, Mahidol graduates in Thai-language programs have the advantage of being educated in a comprehensive university where self and life-long learning as well as general education are emphasized. However, results from the survey show that international education better prepares graduates for the job market than Thai-language programs. The overall size and academic excellence of the university are also important factors in ensuring employment opportunities.

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### TOXICITY AND ACCUMULATION OF CADMIUM AND ZINC IN *HYDROCOTYLE UMBELLATA*

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Key words: Toxicity, Accumulation, Cadmium, Zinc, *Hydrocotyle umbellata* 

The aquatic plant, Hydrocotyle umbellata, was tested for toxicity and accumulation of Cd and Zn under laboratory conditions. H. umbellata were cultured in modified 10% Hoagland solution supplemented with 0.2, 0.4, 0.6, 0.8 and 1 mg/L Cd and 2, 4, 6, 8, 10 and 50 mg/L Zn and were separately harvested after 3, 6, 9 and 12 days. The toxicity symptoms of H. umbellata exposed to Cd and Zn at different concentrations and exposure times were stunted growth and chlorosis in leaves. Finally, some plants died at higher concentrations of metals. The symptoms were more severe at higher metal concentrations. Cd and Zn caused significant decreases in biomass productivity and chlorophyll content when the exposure times and concentrations of both metals were increased. There were significant increases in metal levels in plant tissues when the exposure times and metal concentrations were increased. Both metals accumulated in roots more than in shoots. The high values of bioconcentration factor (BCF) of Cd (7173, at 0.2 mg/L) and Zn (1717, at 2 mg/L) on day 9 of exposure suggested that H. umbellata is a good candidate for removal of Cd and Zn from contaminated water.

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## TOXICITY AND BIOACCUMULATION OF CADMIUM AND LEAD IN SALVINIA CUCULLATA

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Key words: Toxicity, Bioaccumulation, Cadmium, Lead, Salvinia cucullata

The toxicity and accumulation of heavy metals, cadmium (Cd) and lead (Pb) in aquatic fern, *Salvinia cucullata* were studied. Plants were cultured in Hoagland's medium which was supplemented with 0.5, 1,2, and 4 mg/l of Cd and 5, 10, and 40 mg/l of Pb and were separately harvested after 2, 4, 6 and 8 days. The toxicity symptoms of Cd and Pb to S. *cucullata* showed chlorosis on leaves. There were significant deceases in the relative growth, biomass productivity and total chlorophyll content when the exposure time and concentration were increased. The accumulation study showed the significant increases of both metals when the exposure time and concentration were increased. The roots of *S. cucullata* had higher Cd and Pb contents than leaves suggesting that the metals were bound to the root cells and were partially transported to the leaves.

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#### TOXOPLASMOSIS: BEYOND ANIMALS TO HUMANS

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Key words: Toxoplasma gondii, Epidemiology, Thailand

The parasitic zoonosis toxoplasmosis, which was poorly understood before the advent of the HIV epidemic, has become a major clinical problem worldwide. Humans acquire toxoplasmosis from cats, from consuming raw or undercooked meat and from vertical transmission to the foetus through the placenta during pregnancy. Studies of the unique environmental factors in various communities indicate the important roles that eating habits and culture have on the transmission of this infection. The socioepidemiological aspects of toxoplasmosis are thought to be important contributing factors for the spread of this disease. Preventative measures should consider the cultures and beliefs of people in various communities more than solving poverty and giving orthodox health education.

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#### UPTAKE AND ACCUMULATION OF LEAD BY PLANTS FROM THE BO NGAM LEAD MINE AREA IN THAILAND

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Key words: Uptake, Accumulation, Lead, Plants, Bo Ngam lead mine

A field survey of terrestrial plants growing on Bo Ngam lead mine area, Thailand, was conducted to identify species accumulating exceptionally high concentrations of lead. Plant and soil samples were collected from five areas. Lead concentrations in surface soil ranged from 325 to 142 400 mg/kg. The highest lead concentration in soil was found at the ore dressing plant area and lowest at a natural pond area. In different areas, the concentrations of lead in plants were different when comparing various study sites. A total of 48 plant species belonging to 14 families were collected from five sampling sites. Twenty-six plant species had lead concentrations more than 1000 mg/kg in their shoots. Three species (*Microstegium ciliatum, Polygala umbonata, Spermacoce mauritiana*) showed extremely high lead concentrations in their shoots (12 200-28 370 mg/kg) and roots (14 580-128 830 mg/kg).

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#### USE OF PULSE AMPLITUDE (PAM) FLUOROMETRY FOR IN SITU MEASUREMENTS OF PHOTOSYNTHESIS OF PORITES LOBATA

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### **ABSTRACT NOT AVAILABLE**