香港統計學會
Hong Kong Statistical Society

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http://www.hkss.org.hk

Bulletin
Volume 34 No.1
February 2012

Editor's Foreword

We are very happy to be able to reach you all with the latest issue of HKSS Bulletin!

First of all, I'd like to use this opportunity to thank all members of the Editorial Board and contributors for their great contributions to the Bulletin!

In this issue, we have our President's Forum; an article in which Professor Wai-Yin POON shares her reflections and insights on teaching; and two reports. One report is on the 2010/11 Statistical Project Competition for Secondary School Students (SPC), which received fabulous responses. The other report is on the examination information seminar cum certificate presentation ceremony held on 20 October 2011. A list of candidates who successfully completed the Ordinary Certificate, Higher Certificate and Graduate Diploma of the HKSS examination in 2011 is also provided. Lastly, there is a News Column.

On this occasion, we would like to wish all our members and supporters a Happy, Healthy and Prosperous New Year 2012!

Yingying LI

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President's Forum

Leslie TANG

Time flies. This is my last time to share with you in this Forum, as my term as the Society's President is coming to the end.

I am honoured to have the opportunity to be the President of the Society for five years since the 2007/08 session. It is truly a valuable and memorable experience. In particular, I have the chances to receive many honourable guests in the past years, including President Denise Lievesley, President Jef Teugels and President Jae Chang Lee of the International Statistical Institute (ISI), as well as Professor Paul Cheung, the Director of United Nations Statistics Division. Through organising seminars and professional exchanges with these experts, our members could widen their horizon and keep abreast of the latest development in the international statistical community.

(From left to right) Mr. Leslie TANG, Mr. FUNG Hing-wang, Prof. Paul CHEUNG and Prof. NG Kai-wang.

Our Society is keen at fostering closer relationship with statistical professionals of other statistical organisations in the region. In the past few years, we had opportunities to receive and exchange with some statistical practitioners coming from the mainland of China. To build stronger ties with the statistical communities in neighbouring cities, we also organised a visit to Macao in 2007 and one to Shenzhen in 2009. These were meaningful and enjoyable experiences to all the participants.

(Left) Members of the Society visited the Chapel of Our Lady of Penha, a famous tourist site in Macao.
(Right) Mr. Leslie TANG, President of the Society, received a souvenir from Ms. Vanessa KONG, Acting Director of Statistics and Census Service of Macao.

I am also pleased to see the continuous support of secondary school students for the Statistical Project Competition for Secondary School Students (SPC), and the successful launching of the Statistics Creative-Writing Competition for Secondary School Students (SCC) in 2009. After years of effort in organising these competitions, the Society has gained recognition of its significance in promoting statistical literacy among secondary school students in Hong Kong.

Prize presentation ceremony of the first SCC organised in 2009: Guests and organising committee (front row), and the student winning the First Prize and teachers of the corresponding school (back row).

Before I conclude, I would like to express my gratitude to all the Council Members who have supported me during my term as the President, as well as to the members who have offered their strongest assistance in making all the Society's activities successful in the past 5 years.

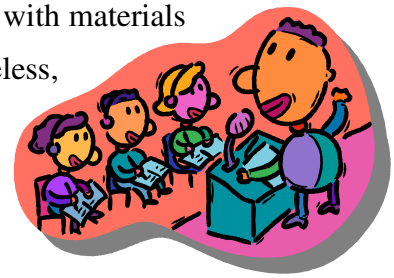
Looking ahead, there will be a very exciting statistical event held in Hong Kong in 2013. That is the 59th World Statistics Congress of the ISI. We are lucky to have such an opportunity to witness and participate in this important international event at our home. Let us join our hands in hosting the 59th World Statistics Congress, making it a great and unforgettable occasion for every participant from all over the world!

My Reflections and Insights on Teaching

Wai-Yin POON
Department of Statistics
The Chinese University of Hong Kong

I started my Career as a professor at the Statistics Department at The Chinese University of Hong Kong in 1987 and have served as the Associate Dean (Education) of the Science Faculty since 2004.

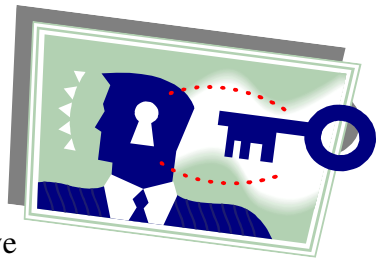
My interest in teaching was stimulated by the many good teachers that I have encountered whom I regard as role models and pay much respect to. Before I took up the post of Associate Dean, my teaching approach was shaped by my teachers and was quite traditional and straightforward. The lesson plans that I prepared were well-organised with materials catering for the needs of both good and less-able students. Nevertheless, my teaching approach appeared to be teacher-centered and focused on transmitting knowledge to students. I worked quite independently and isolated on my own in terms of teaching.



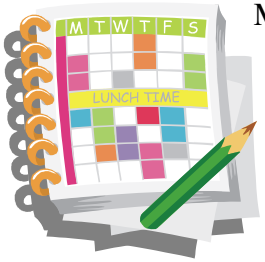
Since my assumption of the role of Associate Dean, I have many opportunities to read documents and literatures in relation to teaching and learning that have brought to my realisation that my knowledge on teaching is indeed limited. I therefore seek to develop partnership with colleagues in the teaching development unit [Centre for Learning Enhancement And Research (CLEAR)] and in the Science Faculty to explore ways and methods to improve my teaching with a view to enhancing students' learning. I become a student of teaching.

Bloom's Taxonomy (Bloom, 1956) and many others (Anderson & Krathwohl, 2001; Krathwohl, 2002) contend that the levels of cognitive engagement with knowledge vary from basic grasping (knowing/comprehending) to interpreting (applying/analysing) and to constructing

(synthesising/evaluating). Having exposed to effective teaching and learning practices for a few years, I now understand that as a teacher my principal role is to facilitate students to attain the highest level of constructing knowledge. My teaching should not be confined to mere acquisition of content knowledge but rather whole person development on the part of students. I aspire to steer students to become open-minded through learning statistics, to accept different views in a critical manner and make evidence-based decisions. I seek to inculcate in my students the importance of team-work spirit and willingness to contribute and serve others. In order to achieve these learning outcomes, I have learned to introduce in my courses student-centered teaching approaches.

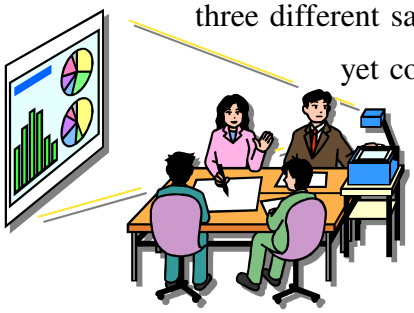


For example, I have taught the undergraduate course "Applied Nonparametric Statistics" for many years. Following the major chapters in Hollander and Wolfe (1999), the course content was organised into 7 Chapters: (1) One sample location problem; (2) Two sample location problem; (3) Test of dispersion and general alternative; (4) One-way layout; (5) Two-way layout; (6) Measure of association and independence problem; and (7) Regression. These topics can be adequately covered in a school term of 13 weeks with each week having 2.5 contact hours plus tutorial.

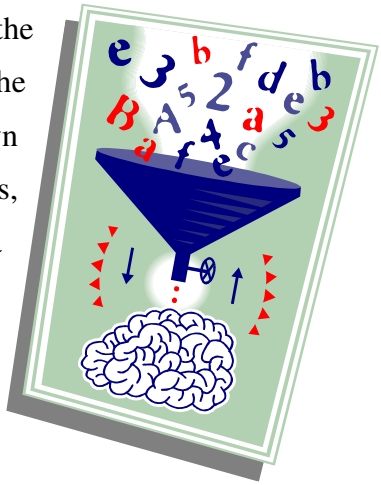


In the past, my teaching of this course mainly focused on didactic one-way lectures. In recent years, I have gradually shifted to adopt a student-centered approach. For example, I have used clickers to engage students as well as structured group discussion to motivate students. These activities are conducted after the completion of the first two Chapters. Specifically, I use a set of clicker questions to initiate group discussion. Clicker is a student response system whereby students can use a clicker to provide instant responses to multiple-choice questions, and summary statistics on students' responses in the form of bar charts could be displayed in real time. Many professors in the Science Faculty of our University have used clickers in their courses. They all found clicker an effective tool to engage students and to promote class-interaction. One good point is that clicker is equally effective in large-size classes, say with more than 200 students. For ease of reference, information of how Science professors use clicker is available in http://www.cuhk.edu.hk/sci/clicker/.

Moreover, I make use of well-structured small-group discussions to involve students in self-reflection and peer instruction, and to motivate them to strive for the highest level of knowledge. The discussion is divided into two parts. First, I ask each student to identify a point that she/he cannot understand, and the group's responsibility is to help solve each student's question through discussion. I participate in the discussion of each group and observe that most areas that individual students have difficulties can indeed be resolved through group discussion. In many cases, only minimal further input is needed on my part. Nevertheless, students appreciate very much my feedback in the form of affirmation on their solutions. I also find using clicker questions to initiate group discussion an effective strategy, as the real-time display of students' responses stimulates students' interests in the discussion. I observe that students show particular interests in discussing those clicker questions in which many students have submitted incorrect answers. In the second part of the discussion, I request students to work in teams to design non-parametric procedures in a "new" context. For example, they have been tasked to design procedures for (i) comparing the dispersions of two samples and (ii) comparing the locations of three different samples respectively. These are topics in other chapters that I have not yet covered in the course. With in-depth understanding of the materials in the first two Chapters, most groups can manage to construct procedures that are either the same or similar to those well-known procedures that I prepare to introduce in later chapters albeit occasional probing may need to be given to students.

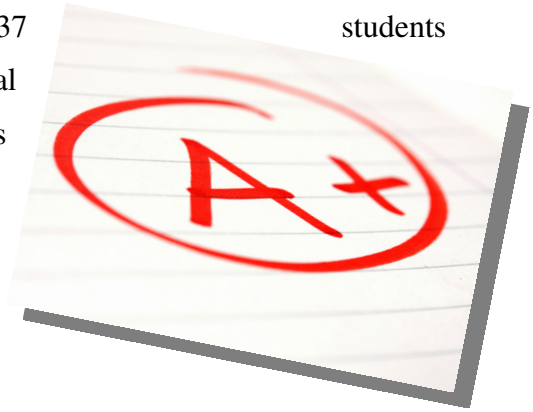


This exercise not only helps students acquire a thorough understanding of the materials that have been covered but also helps them stretch their mind to construct knowledge. Students feel encouraged and excited when they realise that they have successfully constructed a non-parametric test that is the same as the one developed by renowned statistician. Although the exercise occupies at least 2 weeks of my lecture time, I find it an invaluable and fruitful exercise. In essence, with this activity, I can still complete the teaching of all the course materials within the 13-week limit. This could be attributed to the fact that students are well-prepared and capable of constructing their own non-parametric procedures in "new" contexts. Under such circumstances, much less time is required for me to bring students to attain a comprehensive understanding of the topics in later chapters. With this exercise, the learning of the students has enhanced. In effect, involving



students in self-reflection and peer instruction can also nurture other learning outcomes in addition to the content.

Students' feedback to the course is very positive. In terms of students' satisfaction to my teaching in course evaluation, the adjusted mean score[1] with some 40 respondents used to fall within the range from 5.2 to 5.4 with a 6-point scale in the past. Subsequent to my introduction of these activities to the course, the adjusted mean score has been further increased. In the recent term ended December 2011, the adjusted mean score with 37 students was 5.71. I am most delighted to conclude from my personal experience that adopting student-centered teaching approaches can enhance teaching as well as students' learning and satisfaction.



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Anderson, L. W., and Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives. Boston: Allyn & Bacon.

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Krathwohl, D. R. (2002). A revision of Blooms' taxonomy: An overview. *Theory into Practice, 41*(4), 212–218.

[1] At CUHK, adjusted mean is derived by cutting 10% response from the bottom

2010/11 Statistical Project Competition for Secondary School Students

TS TSANG
Chairperson, Organising Committee of
2010/11 Statistical Project Competition for Secondary School Students

To promote statistical literacy among the younger generation, the Hong Kong Statistical Society (HKSS) has been organising the Statistical Project Competition for Secondary School Students (SPC) annually since 1986/87. The objectives of the SPC are to promote a sense of civic awareness and encourage students to understand the local community in a scientific and objective manner through the proper use of statistics. Participants are requested to select, analyse and interpret official data on any social and economic issues in Hong Kong.

The 2010/11 SPC, co-organised by the Education Bureau (EDB) and sponsored by the Hang Seng Indexes Company Limited, was already the 25th round. To help participants prepare for the SPC, an exhibition of past winning projects and a briefing seminar was held on 23 October 2010. The winners of the 24th round were invited to share their experiences. The briefing seminar attracted an audience of around 250 participants from over 50 secondary schools.

To cultivate students' ability to present the theme and findings of the project precisely and concisely, a new statistical poster prize was introduced in this round of the SPC. Participants were required to present the major analytical findings of the project together with related statistical concepts in an A3-sized poster. The statistical poster prizes were namely "Department of Management Sciences, the City University of Hong Kong Prize for the Best Statistical Poster for the Senior Section" and "25th Anniversary of the Statistical Project Competition Prize for the Best Statistical Poster for the Junior Section".

Students of Chiu Lut Sau Memorial Secondary School, winners of the Senior Section of the 24th round SPC, shared their experiences in the briefing seminar.

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The 25th round of the SPC received fabulous responses. Altogether 380 entries (consisting of 207 statistical projects and 173 statistical posters) from 985 students of 62 secondary schools were received. The projects cover a wide variety of themes including but not limited to demographic trends, environmental protection issues and Hong Kong's economic development.

Having undergone stringent scrutiny by the adjudication panel under the leadership of the Chief Adjudicator, Dr LI Leong-kwan of the Hong Kong Polytechnic University, the participants of the more outstanding statistical projects were short-listed for a selection interview before the awards were finally determined.

A prize presentation ceremony was successfully held on 30 April 2011 at the Chiang Chen Studio Theatre of the Hong Kong Polytechnic University. Mr. Daniel WONG, Senior Vice President, Research and Development of the Hang Seng Indexes Company Limited, delivered an enlightening presentation on "The Use of the Hang Seng Index" during the Ceremony.

The trophies for the winning teams of the 2010/11 SPC

Regarding the results of the SPC, the students of Diocesan Girls' School won both the First Prize of the Junior Section (Form 3 to Form 5) as well as the "2011 Population Census Prize for the Best Thematic Project for the Junior Section" contributed by the Census and Statistics Department. The title of their project was "How Statistical Data Collected from Population Censuses/By-censuses Portray the Social Development in Hong Kong - The Convergence of Gendered Lives". The students of Queen's College and Chiu Lut Sau Memorial Secondary School won the Second Prize and the Third Prize respectively.

Students from Diocesan Girls' School, winners of both the First Prize of the Junior Section and the "2011 Population Census Prize for the Best Thematic Project for the Junior Section", shared the memorable moment with the Patrons and Honorable guests.

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For the Senior Section (Form 6 to Form 7), the students of King's College won both the First Prize and the "Hang Seng Indexes Company Limited Prize for the Best Thematic Project for the Senior Section". The title of their project was "The Impact of Past Financial Crises on the Social and Economic Aspects of Hong Kong". The students of Stewards Pooi Kei College and King's College won the Second Prize and the Third Prize respectively.

Students from King's College, winners of both the First Prize and the "Hang Seng Indexes Company Limited Prize for the Best Thematic Project for the Senior Section", shared the memorable moment with the officiating guest, Dr CHAN Ka-ki, Deputy Secretary for Education.

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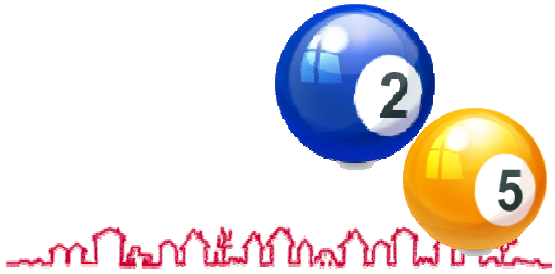
The new statistical poster prizes for the Junior Section and the Senior Section were awarded to the students of Yuen Long Merchants Association Secondary School and those of Stewards Pooi Kei College respectively.

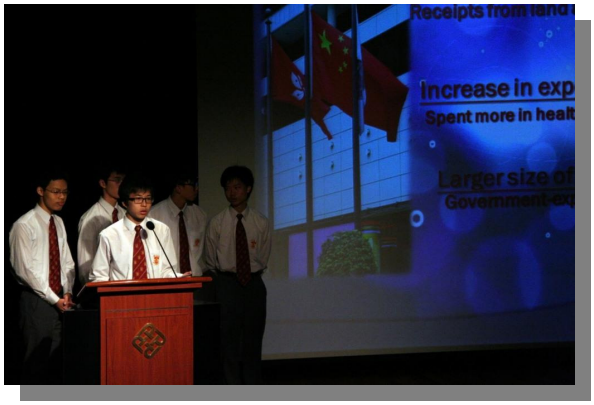
To celebrate the 25th anniversary of the SPC, two special prizes were awarded to the most winning schools in the prize presentation ceremony. Chiu Lut Sau Memorial Secondary School was the champion of the champions in both the Junior Section and the Senior Section, having won the First Prize for eight times and nine times respectively since the inception of the SPC.



Teachers and students from Chiu Lut Sau Memorial Secondary School, champion of the champions in both the Junior Section and the Senior Section, shared the memorable moment with the Honourable guests.

Teachers and students from Chiu Lut Sau Memorial Secondary School, champion of the champions in both the Junior Section and the Senior Section, shared the memorable moment with the Honourable guests.

The winners of the First Prize of both the Junior and Senior Sections were invited to give a summary account of their winning projects and shared with the audience their valuable experience in the course of preparing the projects. The performance of the students was greeted by the audience with rapturous applause.



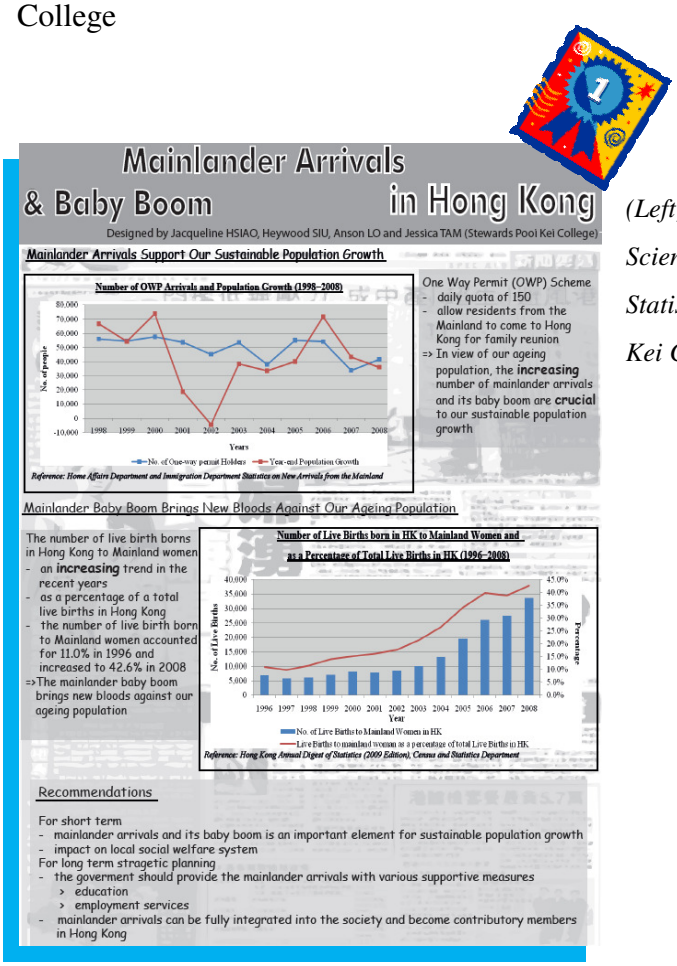
Students from King's College shared with the audience their experience in the course of preparing the project.

The 2010/11 SPC could not be accomplished without the contributions from the patrons and sponsors, and a group of zealous statistical practitioners serving as the Organising Committee of the SPC.

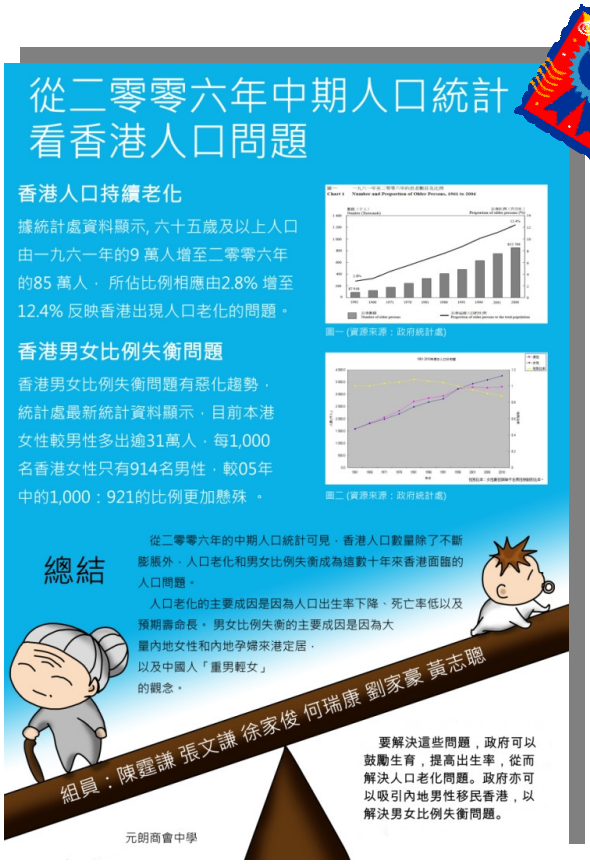
Being the Chairperson of the 2010/11 SPC, I would like to take this opportunity to express my heartfelt gratitude to Mr. FUNG Hing-wang, the former Commissioner for Census and Statistics, for being the Patron of the SPC; to Dr. CHAN Ka-ki, Deputy Secretary for Education, for

being the Patron of the SPC and the officiating guest of the Ceremony; to Mrs. OU-YANG FONG Lily, the Commissioner for Census and Statistics, and Mr. Leslie TANG, President of HKSS, for being the officiating guests, and to all members of the Organising Committee for their effort in the past year.

Winning poster of the "Department of Management Sciences, the City University of Hong Kong Prize for the Best Statistical Poster for the Senior Section" from Stewards Pooi Kei College



(Left) Winning poster of the "Department of Management Sciences, the City University of Hong Kong Prize for the Best Statistical Poster for the Senior Section" from Stewards Pooi Kei College



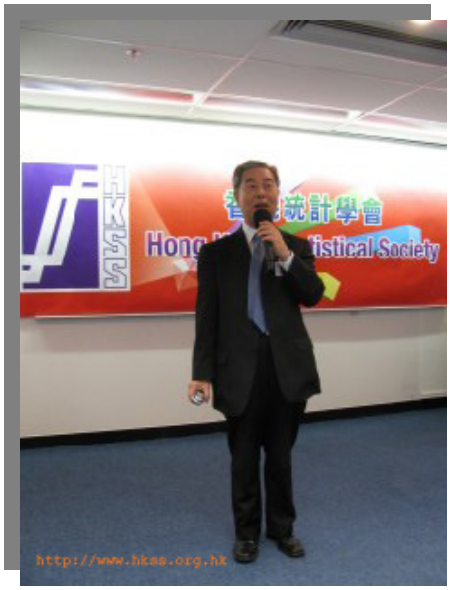
(Right) Winning poster of the"25th Anniversary of the Statistical Project Competition Prize for the Best Statistical Poster for the Junior Section" from Yuen Long Merchants Association Secondary School

Examination Information Seminar Cum Certificate Presentation Ceremony

Examination Board

"As Hong Kong develops into a knowledge-based society, statistics has become the essential tool for daily operation and decision making in both business and public sectors. There is increasing demand for qualified statistical professionals in all fields, including in particular finance, risk management, actuary, market research, quality management, etc. Obtaining statistical profession qualifications will greatly enhance one's competitive edge," said Mr. Leslie TANG, President of Hong Kong Statistical Society (HKSS), in the HKSS Examination Seminar cum Certificate Presentation Ceremony held on 20 October 2011.

(Left) Mr. Leslie TANG, President of HKSS, talked about the importance of obtaining statistical profession qualifications in a knowledge-based society in Hong Kong



(Right) Mr. FUNG Hing-wang, Chairman of the Examination Board of HKSS, shared with the audience the latest development of the examinations offered by HKSS

(From right to left) Mr. Leslie TANG of HKSS, Dr. WONG Heung of Hong Kong Polytechnic University, Mr. FUNG of HKSS, Mr. Raymond TAM of Hong Kong Institute of Vocational Education and Mr. John LAM of HKSS answered questions during the Seminar

Mr. FUNG Hing-Wang, Chairman of the Examination Board of HKSS, said "The HKSS examination is a recommendable avenue for obtaining qualifications at various levels of the statistical profession." Mr. FUNG also shared with the audience the importance of acquiring qualifications of the statistical profession.

"In the past ten years, we are very pleased to see that many persons have joined the statistical profession by obtaining qualifications at various levels of the HKSS examination. In the 2011 round of the examination, 78 candidates took a total of 204 examination papers. So far, 23 candidates have obtained the Graduate Diploma, 65 candidates the Higher Certificate and 63 candidates the Ordinary Certificate. Almost half of the candidates obtaining Ordinary or Higher Certificates scored credit or distinction," continued Mr. Fung.

Two candidates, who had successfully obtained the Graduate Diploma and Higher Certificate respectively, shared their experiences in preparing for the examination

In the 2011 round of the examination, the following candidates have successfully passed examinations at different levels. Their achievements are listed below :-

Awarded with Graduate Diploma in 2011

CHAN Kwok Wai (with Credit)
CHOY Kwok Wai
TANG Chak Ho
WONG Sau Ming

Awarded with Higher Certificate in 2011

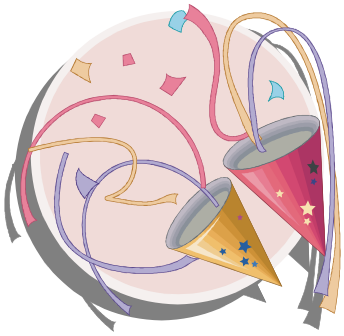
FUNG Pak Hey, Henry (Distinction)
HON Pok Man (Distinction)
SO Tsz Kin (Credit)
LUI Wang Ho
NGAN Kiu Wai

Successfully completed selected Graduate Diploma modules in 2011

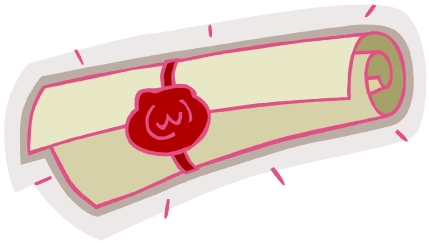
CHEN Hao
CHOW Chi Chung
FONG Kam Yin
HUNG Pui Chuen
LEONG Pun Cheng
LEUNG Joe Yin
PANG Ka Yin
WONG Kin Chi
WONG Mei Wa

Successfully completed selected Higher Certificate modules in 2011

CHAN Chi Io
CHAU Man Him
CHEUNG Hei Sing
CHONG Chui Shan
HO Taine Ting Hin
LAI Cho Yau



LAM Hin Tai
LAM Sze Man
LAU King Tak
LEUNG Ka Ho
MOK Ka Wai
NG Yat Ming, Mike
SHAM Koon Leung
SUM Wai Hung
TAM Lok Kwan
TANG Wai Keong
TSANG Pui Wah
WONG Yin Lung



Successfully completed selected Ordinary Certificate modules in 2011

LEE Wing Yan

News Column

Census and Statistics Department

With effect from 24 September 2011, Mrs. OU-YANG FONG Lily assumes the office of Commissioner for Census and Statistics vice Mr. FUNG Hing-wang on pre-retirement leave. In the meantime, Mr. TANG Wai-kong, Leslie, assumes the office of Deputy Commissioner for Census and Statistics and Ms LO Kit-mui, Agnes, assumes the office of Assistant Commissioner for Census and Statistics.

Department of Statistics and Actuarial Science, The University of Hong Kong

The Department of Statistics and Actuarial Science of The University of Hong Kong (HKU) was designated as a Center of Actuarial Excellence by the Society of Actuaries on 15 December 2011. The designation is awarded for a period of five years to schools which demonstrate excellence in actuarial science through meeting strict criteria in quality of curriculum, number and quality of graduates, qualified faculty, strong ties to business, and beneficial research and scholarship.

An agreement was signed between the Department of Statistics and Actuarial Science of HKU and the Institute and Faculty of Actuaries (IFA), United Kingdom, to accredit the BSc(Actuarial Science) programme for IFA subjects CT1-CT8, with effect from 5 September 2011.

The International Congress on Insurance Mathematics and Economics (IME) is one of the major international conferences in actuarial science. The first congress was held in 1997 at Amsterdam, The Netherlands. Since then, the congress has been held annually. The Sixteenth International Congress on Insurance: Mathematics and Economics will be held at the University of Hong Kong in June 2012. It is the second time that the congress is to be held outside Europe and North America. The congress is associated with the leading actuarial science journal, Insurance: Mathematics and Economics. The journal editors and most of the researchers in actuarial science will attend and give talks during the congress. On this special occasion of The University of Hong Kong centenary, we wish to dedicate this major international congress as one of the celebration events.

Conference website: http://www3.hku.hk/statistics/conference/ime2012/

* THE END *