ISLP Newsletter
Newsletter of the International Statistical Literacy Project
1(9) March 2017

Welcome to the March 2017 ISLP Newsletter, and what a wonderful Newsletter it is, with more than 50 reports from 49 countries worldwide. Congratulations to the ISLP and all the contributors for such an excellent collection of reports. I would like to take this opportunity to record again my personal thanks, and appreciation on behalf of the ISI Executive, for the outstanding work that has been done by ISLP since 2010, under its most dedicated Director, Reija Helenius, and Deputy Directors Pedro Campos, Sharleen Forbes (2010–2013) and Steve McFeely (2013–), supported by ISLP Advisory Board members and many country coordinators.

Recently I was one of the official ISI representatives at the first UN World Data Forum in Cape Town, South Africa. Approximately 1500 participants from a wide range of groups representing policy makers, public and private sectors, educational, research and civil society organisations discussed the huge challenge of putting systems in place to gather and analyse the data needed to support the achievement of the 17 Sustainable Development Goals (SDG's) http://www.un.org/sustainabledevelopment/sustainable-development-goals/ adopted by world leaders in September 2015 at an historic UN Summit. My report on the Forum is at http://isi-web.org/images/news/World%20Data%20for%20Sustainable%20Development_9th%20Feb.pdf and on the session I organized at http://undataforum.org/WorldDataForum/sessions/data-literacy-what-why-and-how/.

The attention on the SDG's is contributing even more to the current emphasis on "big data" and "data science". There are many opportunities in this for the whole community of statistics and statistics teaching, but there are also challenges. One such challenge lies in the perception and promotion of "data literacy". Many of us have already noted that recent descriptions of "data literacy" are essentially the same as the many and long-standing descriptions of statistical literacy, and, in some cases, even the same as some descriptions of the statistical investigation process. Denial or lack of recognition of such similarities is essentially due to persistent misunderstandings of the full nature of statistics and statistical thinking, despite decades of efforts by many. I personally think that care must be taken to avoid non-constructive debates about whether statistical literacy includes data literacy or vice versa, and that the challenge in data literacy is to what extent it should include data management systems and technology. But the work in promoting understanding of the nature of statistics and statistical literacy across all disciplines and all of society is ongoing. ISLP plays an important part in these efforts and I am enthusiastic of what it is achieving, and constantly praising its role in ISI.

Helen MacGillivray,
ISI President-elect.

ISLP Newsletter is the newsletter of the International Statistical Literacy Project of the IASE – the International Association for Statistical Education.
Editors: Reija Helenius (Finland) reija.helenius@stat.fi; Pedro Campos (Portugal), pcampos@fep.up.pt; Steve MacFeely; (Ireland) steve.Macfeely@unctad.org; visit us at: http://iase-web.org/islp/ Lauoyt: Hilkka Lehtonen (Statistics Finland)

in brief...

Advisory Board ISLP

During 2016 the main task of the Advisory Board of the International Statistical Literacy Project has been rejuvenating the Resources Section of the ISLP website, a task begun by James Nicholson two years ago with the help of Professor Denny Garvis, Professor of Business Administration, Williams School, Washington and Lee University, Lexington, VA USA. Many defunct links have been removed, others updated and new links added resulting in 45 current active sections under General Resources on Statistical Literacy. There is a further section under development for Assessment of Statistical Literacy. Eventually it is intended to sub divide the links into the different levels of education. The work of Denny Garvis who has given his time freely on these developments is greatly appreciated.

A further section with 8 links has been added for Journalist training and Media issues. In this section we hope to provide links to relevant news releases as well as free internet resources.

Another Section provides links to three on-line Apps developed in New Zealand for teaching Official Statistics which are useful for training in the Public Service of any country. One App investigates Measuring Price Change dealing with price indices, percentage change and calculating a Consumer Price Index. A second App Compares populations over time between groups within countries including aspects of demography, life tables and age standardisation, while a third with voice overs shows the use of Excel for creating a range of graphs.

It is hoped during 2017 to identify several people in the international statistics education area who may be prepared to take over the planning of different sections of the Resources area by locating new links of interest especially those in languages other than English. One example could be statistics in law, another could deal with journalism and a third, Assessment in Statistics. The ISLP web master, John Shanks, is able to give anyone interested in a particular area permission to mount and edit links in the Resources section which they would control.

If anyone is interested in being part of this project either by taking responsibility for a section or identifying relevant links to load please contact me at jharraway@maths.otago.ac.nz

John Harraway
Chair Advisory Board,
International Statistical Literacy Project

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ISLP Executive Report

It gives me great pleasure to work in the constantly growing ISLP network. This newsletter reflects that as well. Currently, our network covers all continents and there are a total of 177 country coordinators in 91 countries. We would like to warmly thank all country coordinators for their investment in promoting statistical literacy. It has been particularly gratifying to notice the strong growth of the network in Africa and Russia. In addition to the country coordinator network it is also important to continuously develop cooperation and find linkages with international actors and projects. The ISLP has participated, for example, in Eurostat's Digicom project and the OECD's Paris 21 project, where a statistical literacy indicator for developing countries has been developed.

The ISLP is very active among young people. An example of this are the statistical poster competitions. In the statistical poster competition, the competition is not the heart of the matter even though it does challenge young people in different countries in a positive way to compete in the "world championship" of making statistical posters. The core of making statistical posters is that it offers an excellent tool for statistical thinking and research, all the way from selecting the research question, choosing the data collection method and analysing data, to presenting the data and drawing conclusions. I have also noticed this clearly in my home country, where making of statistical posters has been quite unknown earlier but as a result of the poster competitions it has become an excellent teaching tool in Finnish schools.

Young people are not the only target group of the ISLP. Everyone needs statistical literacy from ordinary citizens to decision-makers. We provide guidance into this on our website. Also in coming years our objective is to emphasise even more strongly the importance of reliable and understandable statistical data and the ability to assess statistical data critically.

As in previous years, the ISLP organises an open meeting in connection with the ISI World Statistics Congress in 2017 in Morocco. You are welcome then to discuss and brainstorm about our joint future with the ISLP Executive (Reija Helenius, Pedro Campos and Steve MacFeely).

Best regards

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ISI2017
MARRAKECH
61st ISI WORLD STATISTICS CONGRESS

61st World Statistics Congress
16-21 July 2017
Marrakech

IASE Satellite to 2017 World Statistics Congress
Rabat, Morocco
11-14 July 2017

ANGOLA

Actividades Realizadas

Júlio Delgado*

Apresentação do ISLP a vários organismos governamentais, principalmente no Instituto Nacional de Estatística – INE – (INE Cabo Verde e INE Angola), no sentido de mobilizarem para o desenho e implementação de um projecto/programa nacional de promoção da literacia estatística em todos os sectores e camadas sociais. Foram realizadas no INE de Cabo Verde e de Angola sessões de apresentação do ISLP e capacitação em análise estatística. Em ambos os países foram efeitos convites a varias escola para participarem nos concursos, estando a espera da confirmação formal. Neste momento em Cabo Verde estamos a fazer um levantamento em todas as unidades tuteladas pelo Ministério das Finanças, com o objectivo de desenhar um projecto de dinamizar a utilização de técnicas e ferramentas quantitativas na tomada de decisões. ■

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ARGENTINA

Acciones sobre alfabetización estadistica en Argentina

Dr. Liliana Tauber*

Desde 2013, a pesar de los esfuerzos de difusión y de propuestas de las coordinadoras nacionales (María Inés Rodríguez y Liliana Mabel Tauber), no se ha logrado incentivar a docentes de nivel medio, que quieran acompañar a sus alumnos a participar de la Competición Internacional de Alfabetización Estadística.

A partir de 2014, ambas coordinadoras organizaron un grupo de profesores, y fue María Inés Rodríguez quien logró establecer las Olimpíadas Cordobesas de Estadística. Este proyecto tomó forma en la Universidad Nacional de Río Cuarto, con apoyo del Ministerio de Ciencia y Técnica de la provincia de Córdoba. Ha sido una experiencia

que se ha mantenido hasta 2015 y, a través de ella, se ofrecieron cursos a docentes de nivel medio, quienes a su vez han preparado grupos que participaron de dichas olimpíadas, pero ninguno de ellos lo hizo para ISLP.

Las dificultades principales que hemos detectado han sido básicamente dos:

— La primera de ellas reside en la escasa formación que tienen los profesores de Matemática respecto de la Estadística.

— La segunda, se basa en la complejidad para introducir esta Competición como una instancia de formación, tanto para docentes como para alumnos, ya que dependemos de la autorización de los diversos ministerios de educación de cada provincia así como del Ministerio de Educación y Deportes de la Nación.

Una vez detectadas las problemáticas, hemos decidido que primero deberemos abordar la formación de los docentes y es allí en donde nos centramos.

Particularmente, Liliana Tauber, ha producido materiales escritos que profundizan tanto en la formación sobre Estadística como sobre Educación Estadística. Asimismo, en dicho material, promovemos la información que se brinda desde ISLP, realizando una difusión de los objetivos y actividades de la Competición.

Basado en este material se organizó un módulo de Enseñanza de la Probabilidad y la Estadística que se ofrece on-line como curso obligatorio en el marco de la Especialización en Enseñanza de la Matemática que ofrece el Instituto Nacional de Formación Docente, avalado por el Ministerio de Educación y Deportes de la Nación. Desde mayo de 2015 hasta la actualidad, he sido la responsable del mismo, que ha sido cursado y aprobado por 3500 profesores de Matemática que ejercen su profesión en la Escuela Secundaria.

La organización y objetivos de dicha Especialización la pueden encontrar en: http://nuestraescuela.educacion.gov.ar/postitulomatematicaensecundaria/, el equipo de trabajo y de autores del material en: http://nuestraescuela.educacion.gov.ar/equipo-de-coordinacion- matematica-secundaria/ y el programa del módulo de Estadística en: http://nuestraescuela.educacion.gov.ar/wp-content/uploads/2016/07/EPE.pdf.

Por otra parte, en la Universidad Nacional del Litoral, desde el grupo de investigación sobre Inferencia Informal que hemos formado, ofrecemos cursos de extensión para docentes en ejercicio, tanto presenciales como virtuales que buscan fomentar la implementación de la Educación Estadística en las aulas.

Estamos confiadas en que todas estas propuestas de formación redundarán en una mejor calidad en la enseñanza de la disciplina en todo el país. Y, en consecuencia, esperamos que en las próximas ediciones de la Competencia puedan participar algunos grupos. ■

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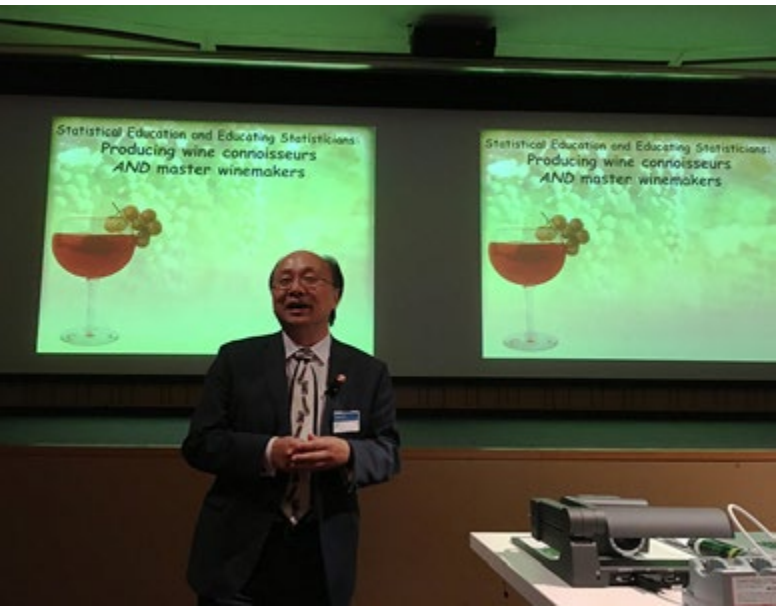
AUSTRALIA

Australian Report

Peter Howley*

In June 2016, I Chaired the SSA's Statistical Education Section, inaugural STEMS colloquium and workshop, 'STEMS2016: Putting Statistics into STEM in the Data Age', along with co-organisers Professors Michael Martin (ANU), Louise Ryan (UTS) and Nick Fisher (USyd). This strategic initiative sought a holistic approach to developing a platform for the transformation of statistics education in Australia at school and at university, in response to an increasingly massive demand for statisticians and an equally massive shortfall in supply. With the rapidly developing importance of Big Data in many aspects of day-to-day activities, the emphasis was on statistics education in the more general context of Data Science education, with the aims of developing an appropriately strategic view of needs, and then an overall plan to respond appropriately.

This very constructive and high-profile event hosted speakers from the Chief Scientist's office, Harvard University, Commonwealth Bank, Qantas, Australian Curriculum Assessment and Reporting Authority, ARC Centre of Excellence for Mathematical and Statistics Frontiers, Australian Mathematical Sciences Institute. Critically, it ensured representation from primary and secondary education through to industry (from suppliers through to customers of the tertiary system), and enabled Australia to collectively unite and reflect upon both the Australian landscape, and the international successes of key attendees, Harvard Professor Meng-Li Xiao (pictured) and Prof Chris Wild, New Zealand, international leaders in statistics education, towards devising our action plan for how we may pilot statistics education in Australia.



The event united primary, secondary and tertiary education with industry leaders to initiate and drive conversations on how to re-imagine the statistics curricula for K-12, undergraduate and postgraduate degrees in data-dependent disciplines to create the next generation of statistics and data science graduates, and how we may collectively ensure a strong trajectory for statistics education in Australia. The result? The degree of collaboration, enthusiasm and belief was palpable. A school teacher wrote post-colloquium "Emily and I were both really impressed with your take on the future of statistics education and thrilled to hear about the Poster Competition. In August we are holding our second ever STEM Festival. In 2014 … it was opened by Nobel Prize winner Brian Schmidt. We are having our opening ceremony on 11th of August and would love a quick video snippet from you to share your view on the role that statistics will play in the future. We've already received some great videos from Dr Carl and alike and would love to hear your views to include in our opening ceremony."

Watch this space!

As for the national poster competition in Australia, it goes from strength to strength. In 2014 I piloted this activity in the Hunter Region NSW (85 students submitted 32 posters) and the Junior division winner went on to win the ISLP Junior Division. The 2015 national expansion engaged over 300 students (76 teams). In 2016 (due to demand) I expanded the national competition to include primary schools and already have over 1000 students (over 400 teams) participating with entire schools getting involved. Teacher feedback has been phenomenal, "…a great vehicle for collecting real data, finding meaning amongst it all, and presenting it for a real audience. 21st Century learning at its best!", Head Mathematics Teacher; "a resounding success…motivates and engages students", Head Teacher, Teaching and Learning. Checkout www.ssaipostercomp.info. ■

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How Statistical Literacy has been Improved in Bangladesh

BANGLADESH

Shongkour Roy*

Bangladesh is a combination of the Bengali words, Bangla and Desh, meaning the country or land where the Bangla language is spoken. It's a low-lying riverine country located in south Asia. The Bangladesh Bureau of Statistics (BBS) plays a leading role in the improvement of statistical literacy in Bangladesh. Every year BBS publishes a comprehensive and systematic summary of basic statistical information for Bangladesh, covering a wide range of fields, such as education, population, economy, society, and culture. The BBS also works to strengthen the professionalism of the national statistical system, which involves: increasing the skills and expertise of the work-force and opening statistical offices at the district and division level; providing strong professional leadership for BBS and the statistical system generally; developing and strengthening internal procedures to make the statistical system more open and accountable; and building trust in statistical products.

As recently as 2000, very few public universities had statistics faculties but now 26 of the 36 public universities now provide higher statistical education and several primary and secondary education institutes include statistics in their curriculum. In our country, demand for statistical jobs is increasing day by day and graduates from statistics get opportunities to work in wide variety of different national and international organizations, corporate institutions and banking sectors, etc. The ISLP in Bangladesh is organized with local NGOs to build-up awareness of efficient data management systems. Now every year World Statistics Day is observed in Bangladesh. But while statistical literacy has moderately improved in Bangladesh there is a need to accelerate progress for the coming generations to assist in the transition from a developing country to a developed nation. ■

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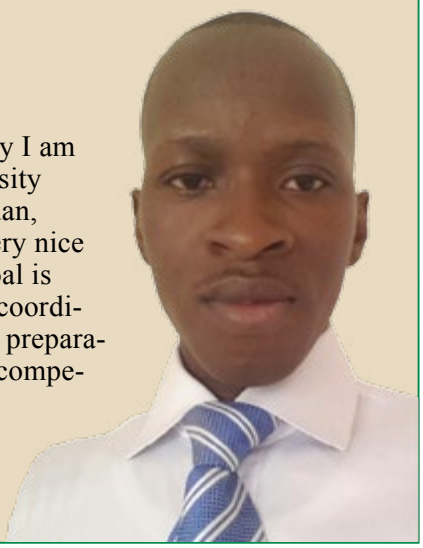
Greetings from BENIN

I am **Justin DANSOU**. I am demographer (MSc in Demography). Currently I am pursuing a PhD in Reproductive Health Sciences at the Pan African University Institute of Life and Earth Sciences (PAULESI), University of Ibadan, Ibadan, Nigeria. For me, the International Statistical Literacy Project (ISLP) is a very nice project seeking statistical literacy improvement worldwide. My ultimate goal is to improve statistical literacy among young Beninese students. As country coordinator, I will work towards the realization of that goal. I have already begun preparations to ensure participation of the Benin Republic in the next ISLP poster competition. In the following years I will ensure a yearly organization of similar competitions in statistics at national level for students of secondary and high school levels.■



BRAZIL

Statistical Multimedia Literacy

Mauren Porciúncula* e Suzi Samá*

LeME – is a Statistical Multimedia Literacy program created and developed by a multidisciplinary team from the Federal University of Rio Grande (FURG) in 2012. It aims to improve the statistical literacy of 300 young people a year, in social, economic and environmental vulnerability. The program enhances statistical skills, helping students to become critical citizens by using and understanding the information available in the digital society.

LeME activities are developed in Social Center of the Boys of the Sea (CCMar). This center is a FURG project, financed by BNDES, which seeks to develop young people through professional courses. These courses seek to promote the development of technical skills and building social values, relevant to citizenship education of every young participant.

The LeME is used in all CCMar courses, including digitally and statistically developing citizens, improving their human rights as inclusive citizens in a digital age. To achieve this, the program has a computer lab consisting of 10 computers and a digital whiteboard.

The LeME was created in order to increase the opportunities to interpret data, to benefit the public with improved knowledge and skills to analyze and interpret their own information. Today many young people have computers and access to the internet. LeME teaches them how to use these resources and make the best of the technology available and of their own time.

To develop statistics skills, LeME makes use of multimedia technologies. Through sounds, images and interaction, the emotion of participants is stimulated, as their statistical knowledge is developed. This knowledge enables participants to make better decisions. Careers in information society require professionals to take a critical view, to observe, reflect and interpret graphs, charts and survey data. The program also contributes to improving the critical faculties and statistically literacy of these young people for life.

At LeME we use teaching strategies that promote student learning, in context with the environment and with pleasure. Something that is interesting, useful and relevant to their lives. In planning the meetings we consider the complexity of the learning process. We look for new methods that possibly prompt the interest of young people to learn statistical concepts.

To contemplate all of these issues, the program has a multidisciplinary

team of undergraduate students in mathematics, psychology, pedagogy, engineering and law.

The diversity of LeME team enables us to provide a dynamic range of activities, to promote pleasure and interaction, while developing and promoting statistical concepts. All of these activities are based on statistical literacy research. This team, with guidance of professors on statistical education, is continuously undertaking research and developing the LeME Program. ■

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Improving Statistical Literacy in Brazil

Mauren Porciúncula

In Brazil we just finished two important conferences, which improve Statistical Literacy: the National Mathematics Education Conference (ENEM) and the Brazilian Statistical Conferences (SINAPE).

The 12th National Mathematics Education Conference was held from July 13th- 16th, 2016. It was an ideal opportunity for the Brazilian statistical education community to present a number of papers, some about statistical literacy, and to promote the work of Brazilian researchers on statistical education. Projects, such as, Statistical Multimedia Literacy (LeME) from the Federal University of Rio Grande (FURG); Active Learning from Federal University from Rio de Janeiro (UNIRIO); and the Statistical Tent, from Regional Council of Statistics (CONRE 3) were just some of the projects highlighted.

The 22nd Brazilian Probability and Statistical Conferences (SINAPE) was held from July 24th- 29th, 2016. In this conference we had three important opportunities to discuss the potential of Brazilian statistical literacy: a communication section about Statistical Education, where some papers on the topic were presented; the 'Statistics For Everybody' course, given by the Statistics Brazilian Association (ABE) for mathematics teachers in Brazil; and a roundtable dedicated to Statistical Education, where three Brazilian researchers presented their work.

Another important event with regard to Statistical Education in Brazil took place recently. Prefaced by Iddo Gal, we officially announced the book 'Statistical Education: Actions and Pedagogical Strategies for Basic and Under-Graduate Education.

This book is dedicated to the improvement of statistical education in Brazil.

All these actions made this year a special year for Statistical Literacy in Brazil. ■

CHILE

Informe ISLP de Chile,
(Chile, Region de Valparaiso)

Soledad Estrella*

En la competencia anterior, desde el Instituto de Matemática de la Pontificia Universidad Católica de Valparaíso se promovió la competición de pósteres, con ello se buscaba que los estudiantes trabajaran en equipo, propiciaran la investigación en torno a preguntas usando datos reales, y pusieran en juego sus habilidades estadísticas y de representación gráfica, para analizar e interpretar resultados estadísticos y desarrollaran sus capacidades de comunicación escrita.

En esta oportunidad, y durante los meses de agosto y septiembre de 2016 se invitara via online a distintos establecimientos a participar en ISLP.

En nuestra experiencia anterior en ISLP detectamos que los profesores requieren de mayor práctica en el diseño de poster, por ello, en octubre de 2016 se realizara un Workshop de Probabilidad con profesores en la Pontificia Universidad Católica de Valparaíso, cuyo trabajo que terminara con la construcción de posteres de las situaciones probabilísticas, en que los profesores aplicaran algunas técnicas de diseño de poster y de la alfabetización estadística, promovidos en el concurso del ISLP.

Los profesores que se inscriban en el concurso ISLP 2016–2017 se les apoyara y hara seguimiento (al menos una vez a cada uno) de modo que ellos implementen sesiones de clases de estadística o de probabilidades al diseño de los posteres (durante los meses de octubre, noviembre o diciembre del año en curso).

En la primera semana del mes de enero de 2017 realizaremos un nuevo Workshop con los profesores participantes e invitaremos a los alumnos que hayan diseñado posteres, momento en que se elegirán a los concursantes finales y que representarán a Chile en ISLP. ■

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COLOMBIA

Informe de coordinación Colombia 2010–2016

Liliana Adriana Mendoza*

De ante mano quiero agradecer a la Directora del Proyecto, Reija, por la confianza que ha depositado en mí para este trabajo. Quiero decir que lo he realizada con todo el amor y compromiso que ha despertado el Proyecto de Alfabetizar en Estadística, y el amor por la estadística.

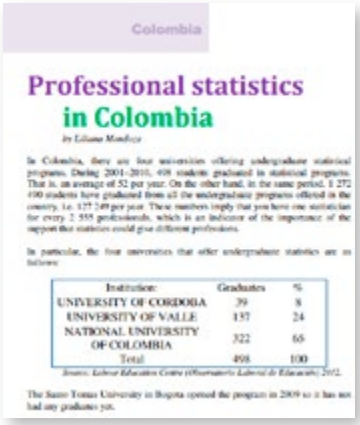
Comienzo el informe indicando que la coordinación en Colombia no ha recibido aportes financieros. Los recursos con los que he podido contar se describen a continuación:

1. El apoyo institucional que me han dadocon el nombramiento como Coordinadora para Colombia de la ISLP;
2. Disponibilidad en la Web de la información para los concursos de posters cada año.
3. Y los contactos de diferentes personas en las universidades donde he trabajado a lo largo de mi carrera.

Quiero compartir los logros que se han obtenido durante mi periodo de coordinación en Colombia; también me gustaría mencionar las dificultades con las que me he encontrado para lograr un programa sólido de alfabetización en estadística:

Resultados:

1. Se publicó un artículo para el boletín ISLP Newsletter.
2. En mi rol como especialista en modelamiento matemático se publicó un libro denominado “HERRAMIENTAS DE ESTADISTICA I” el cual se desarrolló para los cursos de postgrado. Hasta el momento se han vendido cerca de 500 ejemplares de dicho libro.
3. Se impartieron cerca de 10 cursos con una asistencia de 30 estudiantes por curso.
4. En mi rol como docente, durante un año, de dictaron tres cursos en los que se aplicaron técnicas estadísticas. Los cursos fueron: investigación de mercados, macroeconomía, gerencia de producción. Los alumnos que asistieron a estos cursos sumaron 180 estudiantes.
5. Se publica un libro “GERENCIA DE PRODUCCIÓN PARA LA ADMINITRACIÓN AGROPECUARIA” el cual tiene un contenido con amplio uso de la estadística aplicada al campo agrícola. El libro se está vendiendo por internet, no tenemos los números de las ventas, pero por la difusión en internet. El dato consolidado es que son más de 1500 personas quienes lo han comprado. https://www.eae-publishing.com/catalog/details/store/it/book/978-3-659-04750-3/gerencia-de-producción-para-administración-agropecuaria?search=mesa%20de%20fritos
6. Se han dirigido varios trabajos de investigación a nivel de pregrado o universidad básica, los trabajos contienen soporte estadístico de trabajo de campo y prueba de hipótesis. El impacto en alfabetización es de 10 estudiantes.
7. Finalmente, se ha desarrollado un ejercicio piloto en un Colegio en Bogotá en el que los estudiantes toma una muestra y trabaja sobre está afianzando sus conocimientos en conteos y gráficas. Esta prueba piloto fue exitosa y la podemos replicar en más colegios en Bogotá. Impacto 30 estudiantes.



Como resumen de mis resultados como Coordinadora para Colombia de la ISLP debo decir que he usado 5 estrategias y he logrado un impacto de 2.520 alfabetizados directos.

Impacto	
Estrategia	Personas
Libros	2.000
Cursos Posgrado	300
Cursos Pregrado	180
Investigaciones	10
Colegios	30
Total	2.520

Quiero agregar que Colombia en un país en vía de desarrollo en el que la investigación es muy baja y desde luego los recursos para la investigación también lo son. En este sentido lograr voluntarios para esta causa requiere de tiempo y dinero. Propongo dedicar más tiempo a este Proyecto por lo que me gustaría saber si es posible transferir algunos recursos a esta coordinación: los recursos serán destinados para la labor de coordinación y para la continuación del proyecto en los colegios. Mi meta es que para la convocatoria 2016–2017 se presenten poster, por primera vez y se alfabeticen otro tanto de estudiantes. ■

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Greetings from CÔTE D'IVOIR

Gontran Akakpo and Ruben Djogbenou*

The history of statistical literature in Côte d'Ivoire began in 1963 with the report on the Census of the town of Grand Bassam. This publication was followed by two others in 1966 and 1970 which reported respectively census data for the cities of Dabou and Bonoua.

The Graduate school of statistics (ENSEA) was until the 1990s, the only institution engaged in statistical production and statistical publication. After the first census of Côte d'Ivoire was undertaken in 1975, ENSEA introduced a publication, "Studies and Research" in 1980 dealing with various statistical issues, in association with the Scientific Institute for development and Cooperation (ORSTOM). Studies and Research was first presented an analysis of data from the 1975 Census, but thereafter turned to the analysis of certain regions on the basis of an academic survey organized by the school. Studies and Research is now in its 33rd edition, and is still published in paper format. No digital version has yet been developed.

Since its creation in 1946 the National Institute of Statistics (NIS) produced and published statistical reports and analysis. At the beginning, these productions were only available for leaders and/or partners, and these publications were focused on national accounts, demographic and population health statistics and economic statistics. Today, these publications are regularly and periodically available in paper format at the headquarters of the Institute and in digital format on its website. The scope of the statistical production of the INS has greatly expanded, and there are now more than 30 reports and statistical yearbooks produced each year. In addition some monthly publications are also disseminated.

With the launch of the Millennium Development Goals in 2000, some ministries such as health and education, have begun producing analysis reports of the health situation (demographic and health surveys, study of morbidity, etc.) and the national statistical yearbooks of national education. Furthermore, after the socio-political crisis faced by the country, a strong determination emerged to compel all ministries to introduce rigorous methods of monitoring and evaluation and establish a planning and statistics department to produce annual statistical analysis reports and yearbooks. However, this has not yet been implemented across all ministries because of a deficit in official statisticians.

Ruben Djogbenou

Over a period of fifty years, Côte d'Ivoire went from three statistical publications in 20 years (reports of census of Grand Bassam (1963), Dabou (1966) and Bonoua (1970) to a significant number of publications per year. This growth is due firstly to the growth in the number of statisticians and the creation of the National Institute of Statistics, secondly to the availability of new information and communication technologies, and finally to the determination to put statistics at the very heart of political actions and decisions. This has contributed to the increase of statistical literacy in the country. ■

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CZECH

Czech Statistical Literacy Improvement

Jakub Fischer*

Improvement of statistical literacy in the Czech Republic is a key issue for official statistical authorities (mainly the Czech Statistical Office – CZSO); academics (mainly the University of Economics, Prague, Faculty of Informatics and Statistics – UoE); and for non-governmental institutions (mainly the Czech Statistical Society – CSS).

Statistical Literacy has been improved by the aforementioned institutions in several ways. In co-operation between CZSO, UoE and CSS, the national round of the International Poster Competition is implemented. This competition is very popular among secondary schools pupils. More than 600 students participated in the competition during previous rounds and the third round (2016-2017) has been already announced.

For young statisticians, the Czech Statistical Office compiles a so-called "Mini-Census". Thanks to this project, children and youth can see (by the entertaining and educational form) statistics as a very important tool for describing the every-day life of people. Quizzes, cross-word puzzles and children's games with statistical topics are also published by the CZSO for free usage.

The University of Economics, together with the CZSO, provide a specialized statistical study programme for those who work for the state statistical service and who graduated from non-statistical study programmes at universities in the Czech Republic or abroad. This specialized statistical study programme lasts for two years and contains around 200 hours of lectures and preparation of a thesis which must be defended at the end of the study programme.

In 2016, a new study programme "Master in Official Statistics", was accredited by the national accreditation committee. This 2-year programme will be taught in English beginning in the 2017 autumn Semester.

The CZSO prepares lecture notes for teachers at primary and secondary school level which help to teach statistics. The UoE, Prague organizes workshops for teachers of statistics with the same aim.

The CSS organizes several conferences (mainly focused on teaching statistics), supports young statisticians and also arranges social activities. ■

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ECUADOR

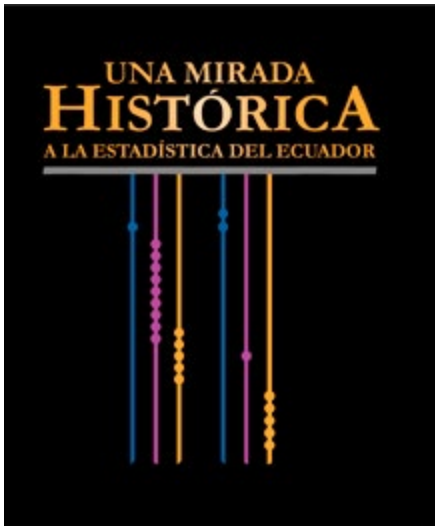
Alfabetización de Estadística en Ecuador

Wehrli Pérez Caicer*

Se han realizado varios programas en búsqueda de la alfabetización estadística en Ecuador, pero en los últimos años, sin duda el programa más importante a nivel nacional ha sido "INEC va a la Escuela".

En el año 2007, bajo la presidencia de Rafael Correa, se designa a Byron Villacis como Director Nacional del INEC, y entre otros proyectos se crea un interesante programa llamado "INEC va a la Escuela".

Según el INEC, este programa consiste en explicar a los niños con actividades lúdicas y dinámica, lo que es un Censo y cuáles son sus beneficios. Las estadísticas demográficas fueron presentadas a los niños mediante la utilización de una palabra mucho más



sencilla de entender: "Somos diferentes", bajo este término se llegó a explicar a los niños que existe diversidad cultural y algunas cifras como "Más de 43 mil niños hablan un idioma extranjero", o se entregaba un afiche donde constaban dibujados varios niños de diferente color de piel y les pedían que contaran cuantos niños eran afroecuatorianos, indígenas, montubios y mestizos en el dibujo. La cantidad de niños tenía relación con la proporción de esas razas en el Ecuador.
http://www.inec.gob.ec/publicaciones_libros/inec%20va%20a%20la%20escuela%20libro.pdf

Este programa incluye también, canciones que hacían cantar a los niños, las cuáles fueron escritas para introducir mensajes que permitan comprender por ejemplo, lo que ocurre con la inflación. El coro de la canción "Suben, bajan, fluyen", escrita por Guanaco – Renato Zamora y música de Ivis Files – Renato Zamora dice: "… Suben y bajan, bajan y suben, Los precios varían, fluyen.." estas canciones también se pueden descargar del sitio web
http://www.ecuadorencifras.gob.ec/canciones-inec-va-a-la-escuela-2/

Hasta el año 2015, el programa permitió ingresar a 886 escuelas, que con el apoyo de profesionales parvularios fue posible llegar a más de 80 mil niños entre 9 y 10 años de edad, en su sitio
http://www.ecuadorencifras.gob.ec/documentos/web-inec/Bibliotecas/Libros/INEC_Historia_Censos.pdf.

Byron Villacis, renunció al INEC en 2012 y José Rosero asumió la dirección hasta la presente fecha.

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ESTONIA

2015 Information Days and Training

Aime Lauk*

2015 was an eventful year for Statistics Estonia, participating in approximately 20 conferences, seminars and other events. In addition, we organised 26 training sessions for statistics users – state officials, pupils and university students, librarians and other people interested in statistics. The number of training participants exceeded 630, which is the largest number of participants in recent years. 430 people participated in training provided by Statistics Estonia in 2014.

An overview of some of the more significant events in 2015 is provided below. In February, Statistics Estonia held an information day for users, providing an overview of the isuses discussed in the analytical publications http://www.stat.ee/publications/?year=2015 "Muutuv majandus ja tööturg" (Changes in the Economy and Labour Market), "Eesti piirkondlik areng" (Regional Development in Estonia) and "Puudega inimeste sotsiaalne lõimumine" (Social Integration of Disabled Persons). The 110 participants rated the seminar highly.

In April, Statistics Estonia in cooperation with the Committee of Sustainable Development held a presentation for the publication "Säästva arengu näitajad" (Indicators of Sustainable Development). 80 people participated in the event.

In September, in cooperation with the administrators of registers of ministries and umbrella organisations of local governments, the information day "Register-based census – balancing expectations and opportunities" was held, being mostly intended for local government representatives. The information day had more than 100 participants.

On 20 October, the World Statistics Day was celebrated under the auspices of the United Nations. For that purpose, several events took place during the week: open

house at Statistics Estonia, statistics quiz on Facebook, the conference "Registers and big data in statistics" introducing the opportunities of using register data and big data in producing statistics and dedicating a special section to REGREL. More than 90 persons participated in the conference.

In November, the annual seminar of the Board of Accounting Teachers "Digital revolution in accounting" took place, dedicating two hours on official statistics. The representative of Statistics Estonia talked about the role of official statistics in society and introduced statistical products that teachers could use in academic work and that might be of interest to the students as well (e.g. blog as study material, opportunities of visualising statistics, statistics app, interactive map application, wider options of using public data after the implementation of the new statistical database software, etc.). Use of statistical products will contribute to the spreading of statistical literacy in society. Statistics Estonia also organised a quiz that received very positive feedback.

In December, a seminar was held under the lecture series for the mathematics teachers of Tallinn, introducing Statistics Estonia and giving an overview of the development of the Estonian population. The second seminar was held in February this year.

At the end of the year, Statistics Estonia organised a seminar for its main users titled "Using register data in national surveys and the census". The aim of the seminar was to give an overview of the data acquisition, data quality and data accuracy of the register-based population and housing census.

Besides the events listed above, Statistics Estonia was also present on the annual City and Rural Municipality Days, the GIS-day, the Enterprise Day in Tallinn and other information days and seminars.

2016
The Estonian Statistical System is celebrating its 95th anniversary

On 1 March 1921, the State Statistical Central Bureau of the Republic of Estonia was established with Albert Pullerits as its leader. This date can be considered the birthday of Estonian statistics. This year, the Estonian Statistical System is celebrating its 95th anniversary.

For this occasion, the producers of official statistics in Estonia, Statistics Estonia and Eesti Pank (the central bank of Estonia), and candidate for the title of producer of official statistics, the National Institute for Health Development organized an international conference "Official Statistics in a Changing World".

The number of conference participants (producers of statistics and users of data) was approximately 600. The key words for the anniversary conference were the past, the present and the future.

More detailed information (programme, pictures, videos) have been published on the web site of Statistics Estonia under the heading "Events" http://www.stat.ee/conference-2016. Bilingual (Estonian and English) Quarterly Bulletin of statistics Estonia 2/2016 http://www.stat.ee/277646 is dedicated to the conference. ■

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FINLAND

Finland Report

Reija Helenius*

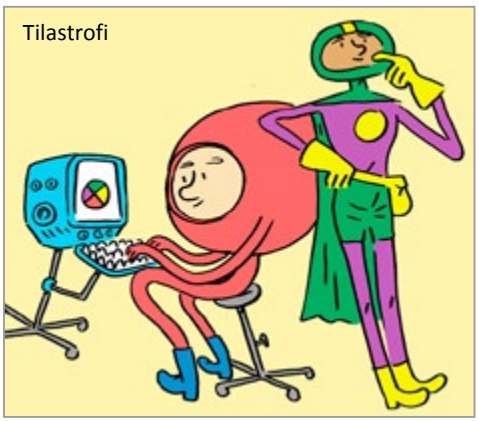
Statistics Finland has been conducting systematic cooperation with educational institutions for over 20 years. Models for cooperation modes were sought, for instance, from Statistics Canada and Statistics Australia that were forerunners on the educational institution front in that period. At the same time, web learning environments and Internet services became more common. Statistics Finland also developed its own learning environment on the web, the eCourse in Statistics. It soon became apparent that users should be more actively involved in planning services. Networking became the key word and it still is.

At the moment, Statistics Finland has active cooperation with teacher's organisation, particularly with mathematics and history teachers and other bodies (e.g. Helsinki Mathland, the Summamutikka centre). The cooperation modes are lecturing, organising workshops, teacher training, educational institutions' visits to Statistics Finland, participation in teachers' training days and fairs, cooperation projects and competitions. Last year, Statistics Finland, together with Helsinki Metropolia University of Applied Sciences, designed the Statistical Finn animation, which aims to make statistics more understandable and, at the same time, show what can be described by statistics and how they portray the passing of time and development of society.

Since 1999, the ISLP project has been coordinated from Statistics Finland. Schools' awareness of and interest in the ISLP competition has grown continuously, which has been the result of active marketing and communication towards schools. For example, in the 2010 to 2011 competition only 200 students from Finland

participated. Today, for the 2016 to 2017 competition more than 1,000 students have already signed up. Designing statistical posters (or posters in general) have not generally been a common method of teaching in Finnish schools but now, thanks to the ISLP, teachers are beginning to find that posters are an excellent teaching tool. The three top teams in both competition categories (young and older) are well rewarded with both money and other awards. The winners also attend a two day event in Helsinki that includes the award ceremony and other programmes for young people. The winners of the upper secondary school category also get a student place at the University of Helsinki to study statistical science. Statistics Finland sees the benefits of arranging the statistical poster competitions as it helps the situation for both parties, both for the statistical institutes and the educational institutions.

Another case example of the cooperation with educational institutions is the statistical yearbook for children project. It has developed the Tilastrofi operating model, where the objective is to encourage children to examine and develop their own life and produce information about issues that matter to them through statistical methods. Tilastrofi contains various tools for children to define their research questions, collect and analyse data, and visualise data. These tools, like statistics and data visualisations produced by the students, are published on the Tilastro.fi page. The project is currently directed at schools in the Helsinki region for children aged 7 to 15. The aim is to expand the project to cover the entire country in 2017. The project is carried out in cooperation between Statistics Finland, Forum Virium, City of Helsinki Urban Facts, Helsinki Mathland, the Summamutikka centre, and Aalto University.


Tilastrofi

In addition to educational institutions, other intermediators of information like media and libraries are also seen as main target groups. They can act as heralds to promote statistical data. In the long term, the measures should cover all actors in society from citizens to decision-makers.■

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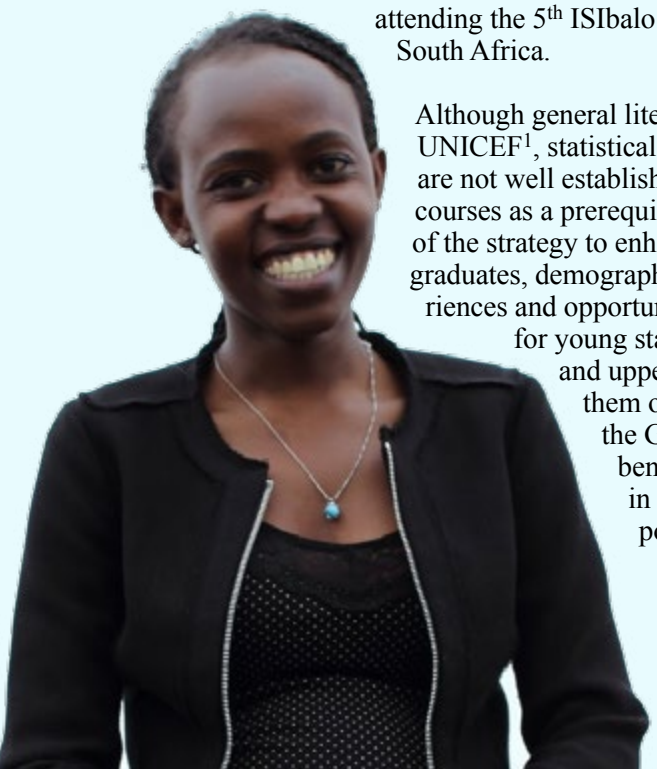
Greetings from GAMBIA

*Sarah N. Mulva



My name is **Sarah Nancy Mulwa**, a Kenyan based in The Gambia. I am a statistician by profession and was appointed as the country representative for the young Statisticians in The Gambia as well as the International Statistical Literacy Project (ISLP) country coordinator. I first heard about ISLP after attending the 5th ISIbalo conference of Africans Young Statisticians in June 2016 in Pretoria, South Africa.

Although general literacy levels in The Gambia have improved over time as reported by UNICEF[1], statistical literacy has been left behind. This is evident in that statistical courses are not well established here. Most institutions of higher education only offer statistical courses as a prerequisite for taking other courses like medicine and business studies. Part of the strategy to enhancing statistical capacity is to create awareness by bringing recent graduates, demographers, social scientists and researchers together in order to share experiences and opportunities. To this end, we are in the process of establishing an association for young statisticians who will then be in charge of visiting universities, lower and upper basic schools to support school children by teaching and mentoring them on general statistical and mathematical concepts. We plan to engage the Gambian Bureau of Statistics from the start as it will allow us enjoy benefits such as use of their conference rooms for meetings, get involved in their in-house training and even assist us in extending our network of potential stakeholders.

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[1] http://www.unicef.org/infobycountry/gambia_statistics.html#118

GEORGIA

What are the Data Saying?

Nana Aslamazishvili*

Statistical literacy are two words increasingly used by the Georgian population. Why? Because statistics are becoming more and more important in everyday life. However, there are still challenges for statistical agencies in communicating statistics and developing appropriate strategy in this regard. Despite this Statistical and Financial education constitutes one of the priority areas for the National Bank of Georgia (NBG). Hence, it is actively working on developing a common statistical and financial literacy strategy.

Within the scope of the aforementioned strategy, the National Bank is working toward several elements, such as: developing video-lessons for wide range of users; face-to-face lessons for banking society and students; and publishing thematic booklets etc. Recently NBG started developing Georgian versions of Khan Academy's[1] educational videos on various topics relating to economics and finance. The process of developing Georgian versions of Khan Academy video lessons entails translating the original, English-language texts; adapting the content, so that it is better tailored to the interests and needs of local consumers (and local market in general); and developing relevant visual features.

A special web-site was created in order to provide users with easy access to information on financial market data. On this site users can find information about the features of the main retail banking products, benefits and risks associated with utilizing these products, and information about consumer rights. In addition users can to look through different statistical data, published on NBG's website and also information how to use this data to support good decision making. ■

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[1] Khan Academy is a non-profit educational organization, established in the United States in 2006, with the aim of rendering free, high-quality education accessible to everyone globally. Khan Academy videos constitute easily comprehensible and engaging lessons on numerous subjects. Currently, Khan Academy videos are translated in to more than 60 languages and are very popular, especially with educational institutions, such as schools. The videos can be accessed on the dedicated YouTube channel, created for this specific purpose, and on the National Bank's Consumer Protection webpage as well.

GERMANY

On the Improvement of Statistical Literacy in Germany

Philipp Ullman*

At school level, the development and implementation of up to date educational standards for mathematics has nearly been completed. Starting in 2003/4 with the primary and lower secondary level and finishing as late as 2012 with the upper secondary level, the KMK (Standing Conference of the Ministers of Education) adopted educational standards at a national level. As a result, stochastics (with a strong focus on statistics) has become a mandatory topic in mathematics at all levels. At the moment, most federal states of Germany are in the final process of implementing the educational standards in the form of core curriculums, hopefully resulting in rising levels of statistical literacy in the long term.

On the part of the professional statisticians' community, the German Statistical Society has established a working group "statistical literacy" in February 2016 in an attempt to concentrate the numerous activities and initiatives designed at fostering statistical thinking in Germany (such as the famous monthly column "un-statistics of the month" https://www.mpib-berlin.mpg.de/de/presse/dossiers/unstatistik-des-monats, to mention just one). A session at the yearly "Statistical Week" in September 2016 is devoted to the promotion of closer collaboration among interested professionals in the field.

At conference level, the IASE 2016 Roundtable Conference on "Promoting understanding of statistics about society" was held in Berlin in July 2016 (http://iase-web.org/conference/roundtable16/). Among other highly interesting topics, the ProCivicStat project was presented, a collaboration of Universities from Germany, Hungary, Israel, Portugal, and the UK, funded by the ERASMUS program of the EU for the next three years. It aims at promoting civic engagement via explorations of evidence and will develop dynamic visualisation tools for laptops and mobile devices as well as teaching and learning material for innovative teaching practices at the secondary and tertiary level (http://community.dur.ac.uk/procivic.stat/). ■

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GHANA

Report on how Statistical Literacy has been Improved in Ghana

Jakob Novignon*

Ghana as the gateway to Africa has in many ways done tremendously well in the training, teaching and practice of statistics in past years. Ghana continuous to play a leading role in academic as well as industrial statistical training in Africa. This report captures and highlights the activities of the Ghana Association of Statistical Students (GASS) and the Ghana Statistical Association (GSA) directed at improving statistical literacy in Ghana.

GHANA ASSOCIATION OF STATISTICS STUDENTS – GASS

Founded in 1995 by the life Patron Prof. N.N.N Nsowah-Nuamah, the GASS has over the years been championing statistics for students. As young statisticians, they annually undertake two key programs all aimed at improving the interest and literacy of society in statistics. They include;

— Catch Them Young – CTY (Statistical Education Campaign in Senior High Schools to sensitize them on the need to pursue and understand statistics)

— Statistical ICT workshop (Aimed at equipping young statisticians with the required software skills in data analysis and management)

Challenges with the CTY has been the lack of funding for this all important campaign. Attempts to solicit funds from government and private firms have been unsuccessful during the past three years since its inception in 2008. The ICT workshop has nevertheless been very successful. Below are pictures from one of such workshops held at the University of Cape Coast – Ghana.

Opening of the 2016 ICT workshop at the University of Cape Coast – Ghana. From left to right; Dr. Nkansah (Snr. Lecturer – UCC), Prof. N.N.N. Nsowah-Nuamah (Founder and Life Patron of GASS), Mr. Arimiyaw (Asst. Lecturer – UCC), Dr. Smart A. Sarpong (National Patron – GASS and Snr. Lecturer – Kumasi Polytechnic)

Dr. Smart A. Sarpong, GASS National Patron and a Data Analysis Consultant taking participants through Data examination using R.

Some statistics students seriously practicing Generalised Linear Modelling using R.

Some statistics students seriously practicing Generalised Linear Modelling using R.

Welcome the 2016/2017 national executives of GASS.

Outgoing National president (right) dressing the incoming President of GASS

GHANA STATISTICAL ASSOCIATION – GSA

The GSA has become dormant owing to a number of challenges. Efforts are underway to re-launch the association. The first meeting was held immediately after the 2015 African Statistics day celebration at the La Palm Royal Beach resort in Accra where an interim committee was set up to mobilize all Statisticians for a re-launch of the dormant GSA. Subsequently a second meeting was held at the Council Chamber of the Kumasi Polytechnic, where the Interim President is the Rector. The meeting unanimously chose Accra, the capital city of Ghana, as the host for the "GRAND re-launch". The meeting also agreed on the last week in August, 2016 as appropriate for the "GRAND re-launch". ■

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HAITI

Bathelemy Bolivar*

HAITI, despite a high illiteracy rate of around 60 percent, has experienced growth, in recent years across a range of statistics, including demographics, human development indices and even infrastructure.

Data are also more evident in media discourse- but not always wisely. Take a look at Haitian newspapers for example. In the run up to the Haitian elections, the layman was exposed to a plethora of numbers and statistics, some of which were completely irrelevant, if not completely meaningless.

The 'Haitian Institute of Statistics and Informatics' which is responsible for compiling key socio-economic indicators such as inflation and unemployment rates, recognises this problem and tries to combat it by making available good quality data to social scientists to promote high quality analyses and studies.

In Haitian universities, most undergraduate programs, with the exception of the the literary and philosophical studies, include a basic statistics course. Nevertheless, statistics are still seen as pure mathematics, difficult to understand, and suitable only for the most gifted students.

To try and overcome this, the 'Haitian School without Borders' have launched the first MOOC (Massive Online Open Course) in statistics delivered in Haitian Creole. This course makes content accessible to any citizen with an interest in: understanding socio-economic news and reports; interpreting the data published by various media outlets; and especially, developing the critical thinking necessary to analyse scientific studies based on quantitative methodology.

We hope, anyone taking this course will be able to, not only understand statistical reasoning, but will also be capable of producing their own data and using appropriate data visualization tools, such as for example, R or Tableau.

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INDIA

Activities for Developing Statistical Literacy in India

D.S. Hooda* and Rahul Pratap Singh Kaurav**

Two summer camps were organized for students in schools. Camp one was held in May 8, 2016 and camp two was on June 12, 2016. Both camps were held at the campus premises of Prestige Institute of Management, Gwalior. Camp 1 had 127 students from various local schools participated in the event. Camp 2 had 87 students.

Following the camps, students were asked to make a chart, demonstrating their newly acquired knowledge of statistics, promoting the application of statistics. The photographs of the event are attached with the report. Resource persons for the workshop were:

— Dr. SS Bhakar, Director, Prestige Institute of Management, Gwalior
— Dr. JP Verma, Professor, LNIPU, Gwalior
— Dr. Manoj Dash, Assistant Professor, IIITM, Gwalior
— Dr. Garima Mathur, Associate Professor, Prestige Institute of Management, Gwalior
— Dr. Rahul Pratap Singh Kaurav, Assistant Professor, Prestige Institute of Management, Gwalior
— Dr. Richa Banerjee, Assistant Professor, Prestige Institute of Management, Gwalior
— Dr. Ruturaj Baber, Assistant Professor, Prestige Institute of Management, Gwalior

* Professor, Dean Jaypee Institute of Engineering and Technology
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**Asst. Professori, Prestige Institute of Management Gwalior (M.P.)
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News on IRAN

Afshin Ashofteh*

The very first book dealing with Statistical Literacy, written in the Persian Language, was published by Afshin Ashofteh, the ISLP coordinator in Iran.

Recently, three important events simultaneously occurred:

1. The Iranian Statistical Society celebrated their 25th anniversary;
2. the House of Statistics was founded in the scientific city of Isfahan, one of the most ancient and beautiful cities of Iran;
3. and, United Nations Secretary-General Ban Ki-moon invited all partners and stakeholders to celebrate World Statistics Day to promote better data and better lives and as the result, all Iranian parties celebrated the anniversary of World Day of Statistics.

To celebrate World Statistics Day, a book essayed by Afshin Ashofteh, representative of ISLP in Iran, about statistical literacy in economic and social studies was published. This book contains three, accessible chapters discussing the important points of data collection, interpretation and report writing. The objective of this book is to explain what the results of any organized set of observations or experimental manipulation in economic or social studies really mean. Storytelling, real examples, and simplified statistical facts are combined together to make a simple textbook, allowing the public to learn how to utilize statistics in their daily life.

Publication was approved by the committee, which consists of staff from the Iranian Statistical Society and the House of Statistics. The book is written in Persian/Farsi. Electronic copies are available free of charge from the websites of both institutes. It is recommended on the back-cover of the book that any optional payment should be donated to charities chosen by the readers.

The Persian website of Statistical Literacy and the story book "One Day with Statistics", which was published on World Statistics Day in Iran, were some other activities of this author that relate to Statistical Literacy.

Isfahan Statistics House is a complex in the scientific city of Isfahan which is works on various aspects of Statistics with a view to spreading knowledge and improving statistical literacy among the youth in society, students and teachers. Some of their activities in 2015–2016 included:

a. Competition for high school students entitled "The best project in Statistics and Modeling course"

b. Research career for students of secondary school entitled "Introduction to Statistics and Probability"
c. "Statistics, Probability and surprising" Workshop for students of high schools which was conducted with a lot of games and amusements.
d. Research project about application of Statistics in the sciences.
e. Teaching statistical concepts as part of a "Statistics and Modeling" course for high school teachers.
f. Workshop entitled "Game, Statistics and Probability" for primary school students.
g. Career awareness for primary school students entitled "Little Statisticians"
h. Career for pre-school students (age 6–7) entitled "little passengers of Statistics"
i. Workshop entitled "Statistics and thought" for primary school students.

Activities of Afshin Ashofteh, repre‡ sentative of ISLP in Iran in 2016:

a. Published the first book of Statistical Literacy in Persian Language. This 111 page book is about statistical literacy in economic and social studies. The book comprises three chapters that deal with data collection, interpretation and report writing. The objective of the book is to explain what the results of any organized set of observations or experimental manipulation in economic or social studies really mean. Storytelling, real examples, and simplified statistical facts are combined to make a simple textbook, allowing the public to understand and use statistics in their daily lives. The book is written in Persian/Farsi and electronic copies are available free of charge, from the Isfahan House of Statistics and Iranian Statistical Society websites. The author recommends on back-cover of the book that any optional payments should be donated to charity.
b. A Persian website dedicated to Statistical Literacy.
c. A story book “One Day with Stae tistics”, published to commemoe rate World Statistics Day in Iran.
d. A newsletter, published since 2013 by the Iranian Statistical Society, dealing with Statistical Literacy.
e. A workshop about Statistical Literacy for employees and specialists of the Kerman University of Medical Sciences specializing in child cancer. The payment of this workshop goes to the Society to Support Children Suffering from Cancer in Iran. This workshop was also recorded by the University so that others who could not attend can still benefit. ■

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IRELAND

Ireland Report

Aisling Leavy* and Eoin McCuirc**

While there has been no official recent review of statistical literacy in Ireland, recent initiatives and curriculum reform provide structures supportive to improvements in statistical literacy. Reform of school level mathematics curricula has brought about substantial improvements and focus on statistics education. At the primary level (ages 4–12), a critical new departure for mathematics education in the Primary School Mathematics Curriculum (1999) was the inclusion of data as a strand of study in primary mathematics (http://www.ncca.ie/uploadedfiles/Curriculum/Maths_Curr.pdf). Similarly, at secondary level (ages 12–18), the new reformed secondary mathematics curriculum has seen improvement in the processes and content of statistics education (http://www.ncca.ie/en/Curriculum_and_Assessment/Post-Primary_Education/Project_Maths/).

Ireland's participation in the International Statistical Literacy Project (ISLP) has also been central to engaging young people with research and in communicating the outcomes of their statistical investigations. The high levels of participation of schools in the ISLP and the John Hooper Medal for Statistics 2016 Competition funded and managed by our central statistics office (http://www.cso.ie/en/newsandevents/johnhoopermedalforstatistics2016competition/) are very promising indicators for the advancement of statistical literacy in Ireland. Recently Ireland has placed very well in the ISLP competitions with Ireland coming 3rd in the young age division and placing 1st in the older age division (http://iase-web.org/islp/Poster_Competition_2014-2015.php?p=Prizewinners). ■

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ITALY

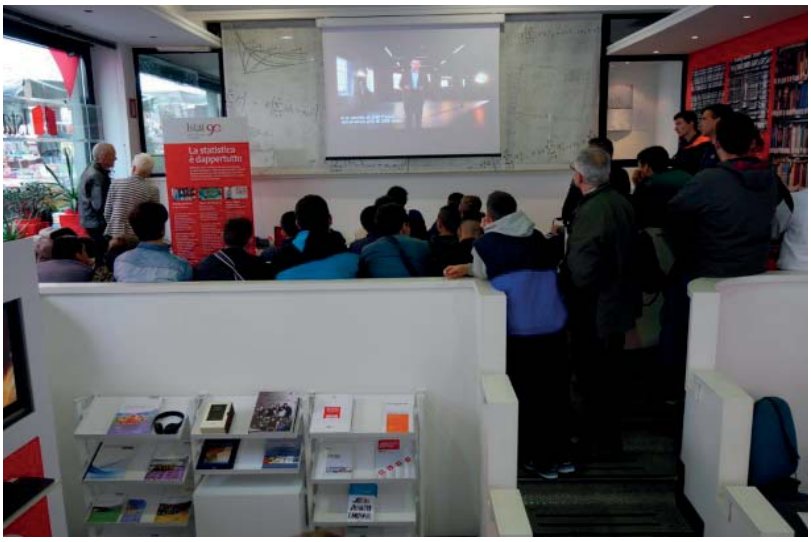
Giulia Peci* and
Francesco Michele Mortati**

In 2016 Istat is celebrating its 90th anniversary with a focus on young people. In fact, the 22nd annual edition of the Istat Report about Italy's situation, describes generational changes that have occurred in Italy over the past 90 years. Moreover, a lot of initiatives and events have been planned and organised with regards to this celebration. Many of them were specially designed for students with the aim of increasing their involvement in statistics.

One of these initiatives is the multimedia exhibition, opened on April 12 in the 'Spazio Istat', at the Istat central office in Rome, Italy. This area is normally used by citizens who want to ask for our data. The exhibition provides a history of Italy's official statistics' using video, archive images and documentaries. While the exhibition is open to everyone, several videos are especially designed for young people, in particular students aged 16/17 years.

The exhibition space gave us the opportunity to organise student visits as part of the promotion of a statistical culture project. All the participating schools reacted enthusiastically to the initiative. During these meetings, students watched videos, especially chosen for them, and also played statistical games aimed at fostering their interaction and encouraging their interest in statistics. Most of the students were from Italy, but we also hosted a group of Erasmus students from Romania. Students were always asked to leave a comment at the end of each visit and all their comments were really very positive.

In special way, they all appreciated the chance we gave them to better understand the link between everyday life and statistics. They particularly appreciated the fact that this happened in an easy and amusing way through videos, dynamic graphics and the creation of 'statistical stories'[1] seen in the framework of the history of Italy and our Institute over the last century.



By the end of this year, we expect 600 students to visit the exhibition.

1 (using Statistics eXplorer, a software created to manage data through dynamic graphics)

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JAPAN

New Challenges to Promote the Use of Statistics in Japan

– Toward the Creation of Higher Value by Utilizing Official Statistics through Cultivating Nation's Statistical Literacy

Statistics Japan Statistics Bureau, Ministry of Internal Affairs and Communications

Michiko Watanabe*

With the remarkable progress of Information and Communication Technology (ICT) and the growing demand for data analysis, circumstances surrounding official statistics in Japan have dramatically changed in recent years. The government of Japan has faced two pressing issues: how to provide statistical data so that people can have easier access and how to increase human resources with deep analytical skills who are in short supply all over Japan. The Statistics Bureau of Japan (SBJ) has unveiled several projects to address these two problems and achieve more convenient and advanced use of official statistics.

As a part of an initiative to boost "Open Data" for official statistics, the SBJ is making continuous efforts to improve the methods of disseminating statistics. Installation of the Application Programming Interface (API) function and statistical Geographical Information System (GIS) into "e-Stat", a portal site of official statistics of the Japanese government, makes it possible for users to analyze a huge amount of statistical data in an advanced and sophisticated way. Using the API function, the most recent data of e-Stat is automatically updated to the user's system. Advanced analysis of statistical data by mash-ups with other unofficial data are also available. Using statistical GIS, users can easily visualize statistical data with geographical information and compare data in an arbitrarily designated area or region.

To increase the number of statistically literate citizens, the SBJ has provided several educational websites tailored to different age groups, ranging from children to adults. One of these is the "Data Science School" giving users fundamental knowledge of statistics. The other is "Data Science Online Courses" providing business people with advanced techniques of statistical analysis through Massive Open Online Course (MOOC) on which more than 20,000 people have attended.

The National Statistics Poster Competition (NSPC) is significant as it has been conducted annually by the Director-General for Policy Planning on Statistical Standards since 1953. Marking its 63rd year, the NSPC 2015 accepted 26,558 works, of which the best was awarded the 'Minister for Internal Affairs and Communication Award' at the celebration ceremony for National Statistics Day on 19th November 2015. ■

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Statistical Literacy in Kenya

KENYA

Dorcas Kareithi* and Jonesmus Wambua**

Kenya's ISLP coordinators are Mr. Jonesmus Wambua and Ms. Dorcas Kareithi. Jonesmus has a MSC in social statistics and over five years experience working as a professional statistician. He leads and coordinates research activities in JHPIEGO Kenya office including developing research protocols, supervising protocol implementation, data analysis as well as development of manuscripts for publication, mentoring staff on research methods and offering statistical expertise to all JHPIEGO staff. Dorcas Kareithi is a young and seasoned statistician, with over 2 years' experience in various capacities in the research sector in Kenya, specialising in statistical units. She is currently completing her MSC in Biometry. Dorcas is also the current Kenyan representative in the ISIbalo Young Statisticians Association (IYASA).

Kenya has been at the forefront in supporting statistical literacy in Africa. Since the launch of Kenya Open Data portal in 2015, the portal has been reported to be the most visited government site in Kenya with over 170 million visits as per August 2016 with an average of 200 datasets downloaded every day[1]. This means that more Kenyans are able to access data made public by the government and various government institutions.

However, reports from KNBS (2015) reveal that in 2014, only 36.4% of students in secondary schools sat for mathematics exams, an increase of 0.1% on 2013. In contrast the number of students pursuing STEM related first degree courses in Public Universities was at 11.8% and 12.8% for 2013/2014 and 2014/2015 respectively[2]. Researchers have reported that though statistical literacy in Kenya is low, it is steadily improving, with citizens, commonly known as "Local mwananchi" taking an interest in statistical data[3], literature[4] and media houses embracing data journalism[5, 6]. Nevertheless little has been done to document or publish efforts highlighting improvements in statistical literacy in Kenya by either government or the private sector. We hope to change this.

According to the Kenyan 2006 Statistics Act, the national statistical office, known as the Kenya National Bureau of Statistics (KNBS), is mandated with (among other things) collecting, analyzing and disseminating statistical data in Kenya as well as being the custodian of official statistical information[7]. Following meetings with the National Director, the ISLP coordinators were given the responsibility of mobilizing statisticians and coming up with ways to reach out to not only statisticians, but to also fill the statistical literacy gap in the country and enhance statistical capacity, in line with ISLP objectives. The country coordinators, therefore in collaboration with the IYASA activities an objectives, plan to make frequent visits to high schools, public universities and local communities with mentorship support from KNBS. The coordinators are planning to hold a meeting with some young statisticians in September 2016 to brainstorm and agree a future work plan. ■

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KUWAIT

ISLP in Kuwait

Salahideen ALHAJ*

The key performance indicator (KPI) for the statistical literacy improvement is community statistical awareness, which reflects the degree of awareness of statistical information in the community and their appreciation of statistics on planning, development, and public policies in society. The greater the degree of cognisance and understanding of statistical information in the community, the wider the statistical awareness.

Since Kuwait has participated in the ISLP:

1. We notice a greater appreciation of statistics across society as well as at individual level, in particular the recognition of the need for accurate data.
2. ISLP Kuwait chapter has launched social media accounts on Instagram and twitter.
3. We have more than 420 followers on Instagram and more than 200 followers on twitter.
4. ISLP is preparing to participate in the 2017 competition. At the time of writing we have more than 10 students registered.

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MALAWI

Promotion of Statistical Literacy in Malawi

Kondwani Mpinga*

My name is Kondwani Mpinga co-coordinator of ISLP in Malawi. I am an Economics and Demography student at Chancellor College at the University of Malawi. I am a member of the Young African Statisticians executive committee and team leader for Malawi under the ISIbalo capacity building program.

My goals as coordinator in brief are as follows:

- To promote statistical literacy among young people;
- To promote statistical literacy among female children in particular;
- To encourage evidence informed statistical training at tertiary level; and to
- Enhance statistical know-how of people from all walks of life.

I believe Malawi as country is at a juncture where statistical know-how is required to tackle various economic, population and environmental problems, to mention just a few. In an era of the Sustainable Development Goals, the need to harness and understand big data is more pronounced than ever. With a wide variety of data being collected and disseminated, it is important that the populace can understand and interpret that information. This will enhance responsible citizenry, good decision making and hence propel the country forward.

Statistical literacy is essential for younger generations who will be the future of the nation and custodians of our future growth and prosperity. They need to interpret and understand information, such as, inflation, GDP, and population growth rates. This will ensure that they are equipped with evidence to inform them of events around them. This will I believe empower them to be responsible future citizens.

To begin with, I will target school going children and young people. This will be done by promoting the teaching of mathematics, with particular emphasis on tackling statistical concepts in schools. The emphasis shall be on school mathematics teachers who I believe will be agents of statistical literacy to the younger generations provided they are given the necessary tools and proper training. Expansion of participation of more schools in the international statistical poster competition, for example, will also help in cultivating statistical literacy among school students.

It is also of great importance to promote statistical knowledge for female children most especially in a developing country like Malawi. Girls are future mothers and can help in passing on their knowledge to future generations. It is a well-known fact that well educated mothers play an important role in the education of their children and statistical literacy is not an exception. To promote statistical literacy among girls I will strive to have peer education through role models, by engaging those who have passed through the statistical journey and have excelled in their lives, to encourage girls to stay at school and promote a love of statistics

Again at the tertiary education level intervarsity statistical debates aimed at promoting the better use and understanding of statistics will be initiated with the overall goal of having trained statisticians who are equipped with skills essential for the promotion of statistical literacy in the workplace and society generally.

Finally adult citizens cannot be ignored if statistical literacy is to have a meaningful contribution to the country's development. To ensure the inclusion of adults I will promote statistical training workshops where people from various walks of life and professionals are brought together and taught about the story behind various published figures in official reports so that they can make well informed decisions and choices. This I believe will go a long way in helping the country's development since people will be able to live and make choices that are not just informed by perception but rather statistical information. ■

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MALTA

Statistical Literacy

Keith Borg*

In February 2016 a specialised the Dissemination Unit was set up with the aim of having a more focused approach towards meeting two basilar objectives:

— To enhance the corporate image of the National Statistics Office; and
— To ensure that the statistical output is effectively communicated and accessible to a wider audience.

However, the unit's underlying mission, emanating from the second point above, is to promote statistical literacy. To this end, a number of measures were taken over the past six months:

— The Dissemination Unit developed a new product on our website intended to highlight the 'salient points' of publications. More specifically, the Unit produced the 'salient points' of the Supply, Use and Input-Output tables – 2010 and the Demographic Review 2014 making it easier for the media to cover these publications and for the general public to understand the meaning of the information provided.
— In line with its commitment to build bridges with our users, the Dissemination Unit organised two seminars. The first seminar, Statistics and the Media, held on 29 February 2016 was primarily intended to help members from the media and users engaged in PR familiarise themselves with the statistical output of the office.

The second seminar, Supply, Use and Input-Output (SUIO) tables – 2010, held on Wednesday 27 July 2016, targeted technical users interested in gaining more insight into the interpretation and use of this elaborate tool.
— The Dissemination Unit also developed and launched NSO's first interactive online product enabling population comparisons between different localities and regions in the Maltese Islands. ■

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MEXICO

Statistic Literacy as a Curricular Standard

Hugo Hernàndez Trevethan*

We would like most people to be statistically literate, and we have made great efforts to achieve this. As a part of that effort, we've been trying to encourage not just teachers to help their students to improve their statistical literacy, but asking scholarly authorities to promote statistical literacy among teachers as well. We have done this by articulating the benefits of statistical literacy. Sometimes we succeeded, sometimes we failed.

Fortunately in Mexico, a significant opportunity to build on these suggestions came about. The National University (UNAM), concerned about the low levels of mathematics students, at all levels of educational: high school, college and post graduate, held a seminar with teachers and researchers in order to develop activities and strategies to improve students' knowledge of mathematics, including statistics within math, starting with high school students.

One of the products developed was a book 'Estándares de Matemáticas para el Bachillerato de la UNAM' (Mathematics standards for the UNAM's high school). This book outlines what the group of teachers and researchers considered as the fundamental knowledge in Math required by every student when finishing high school. The book places greater emphasis and importance on numerical reasoning and critical thinking rather than the operative aspects of mathematics traditionally emphasized by standard curricula. We hope that the book will serve to further reinforce the importance of statistical literacy with educational authorities and teachers. ■

The book may be found (in Spanish only) at: http://arquimedes.matem.unam.mx/estandares/Estandares-Bachillerato.pdf

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NIGERIA

Greetings from Nigeria

Muhammad Bamanga*

As one of the country coordinators and Vice President of the Nigerian Statistical Association (NSA) I have contributed to statistical literacy in Nigeria through:

A. Organization of an annual conference where statisticians from all over Nigeria converge for statistical advocacy in the host state and where educational seminar papers on statistics are usually presented. The 2015 annual conference took place at Osogbo, Osun State, Nigeria. Because of the statistical enlightenment during the conference the Executive Governor of the State of Osun requested the NSA to help the state develop its statistical system. Currently some executive members of the NSA are assisting the state to develop its statistical system based on states statistical master plan for Nigeria. The 2016 NSA annual conference is scheduled for September, 2016 in Abuja, Nigeria (see attached).

B. Organization of Planning, Research and Statistics (PRS) workshops: The 2015 PRS workshop took place in Nasarawa State, Nigeria. The participants were exposed to:

1. System of Administrative Statistics (SAS)
2. Survey Design and Implementation (Survey)
3. National Statistics Strategy (NSDS)
4. Industrial classification (ISIC)
5. Fundamental Principles of Official Statistics and African Charter on Official Statistics (FPOS)

The 2016 PRS workshop will take place shortly after the NSA 2016 annual conference in Abuja, Nigeria. ■

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NORWAY

Activities of Statistics Norway to Improve Statistical Literacy

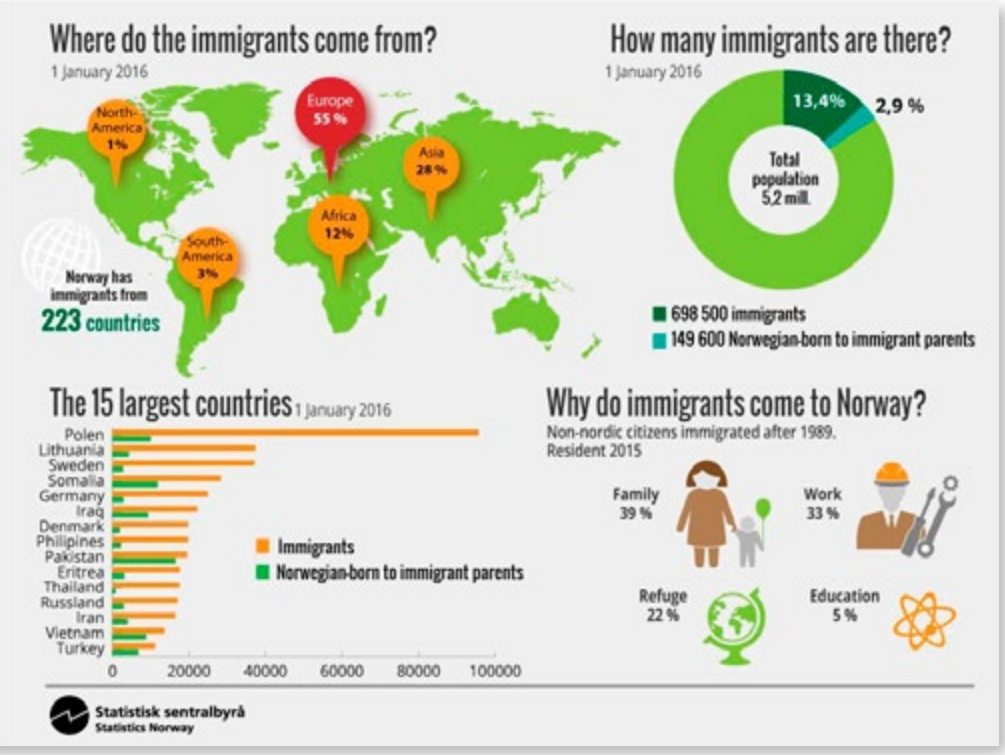
Camilla Stabell*

Courses for upper secondary level

Statistics Norway offer courses for classes at upper secondary level. The students are taught basic statistics and how to find statistics on our website. We do not actively promote this service at the moment, but welcome those who contact us. We have approximately 10 visits annually. In 2016 we had a presentation for 500 3rd year students at a special career event for upper secondary schools. Statistics Norway presented statistics and research on higher education and employment. We also gave a course for several teachers at upper secondary school level.

In august 2016 Statistics Norway arranged a workshop for students at upper secondary level. The event took place as part of a huge national political festival. About 60 students to attended and we helped them to develop statistics on the spot. The aim of the workshop was to teach students some basics about statistics and improve their understanding of how to interpret statistics.

In autumn 2016 we are expanding the courses we offer for upper secondary students. We are developing standardized lectures of 20 minutes on different subjects, such as: gender equality, immigration and the economy. Teachers can choose one of these lectures in addition to the more standardized course in how to find statistics.



Infographics in exams and schoolbooks at primary and lower secondary level

Statistics Norway is increasingly using infographics to illustrate statistics. This approach has also been adopted by the education system. In the Norwegian exam for 10th grade students in Spring 2016, one of the exam questions was based on a statistical infographic on throughput of pupils in upper secondary education. The students were asked to reflect on the numbers and why so many students do not complete their upper secondary education.

A statistical infographic based on childrens names will be used in a school book for 4th grade, primary education, this autumn. Teachers can use these statistics to introduce the topic and teach their students to navigate Statistics Norway web site. An infographic on immigration will also be used in a book for 6th grade, primary education. See infographics attached.

Courses for students of journalism and library studies at higher education level

Every yearl Statistics Norway provides courses for journalism and library students. The students are given a basic understanding of statistics, a guide on how to find statistics and taught about use and misuse of statistics. ■

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Greetings from PALESTINE

Mahmoud Almanassra*

My name is **Mahmoud Almanassra**. I'm an Associate professor of Mathematics and Statistics at the Arab American University-Jenin. I'm currently the chairman of the Mathematics and Statistics department, and I have recently been appointed the Dean of Scientific Research. I worked for several years in the USA. I spent 9 years working at the University of Wisconsin-Marinette. I also spent two and half years working at Wartburg College-Iowa.

I received my Ph.D. from Southern Illinois University-Carbondale. In 1999, I got my Masters degree from the same university. I received my undergraduate degree from Hebron University-Palestine. The major field of statistics that I have worked in is Survival Analysis.

I have many plans that I would like to fulfill here in Palestine, especially since nowadays the world and our daily life feeds off data and many other different statistical products have a great influence on people and society. Unfortunately, there is a lack of information and appreciation of statistics in Palestine, at student, teacher, or even statistician level.

There is also a lack in tying mathematical skills with statistics and using them to help solve statistical questions. I hope that in the near future I will be able to help clear the misunderstandings regarding the statistics field in Palestine, as I have now become the ISLP coordinator for Palestine. I plan on teaching school students to improve and raise their level of statistical skills. I hope to produce educational posters and provide different teaching methods to schools to help raise awareness of statistics. I also hope to hold a conference for teachers and statisticians, to improve communication and interaction between them. To assist with this, I plan to create an online database for all Palestinian statisticians, where they can share data, new methods, software and information. If I receive efficient funding, I will also be able to hold workshops for teachers in various locations throughout Palestine to help teachers learn more and new information about statistics.

I look forward to being the Palestinian ISLP coordinator and working with other countries coordinators. I also look forward to working towards a better future for statistics here in Palestine and around the world.

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PERU

Improving the Culture of Statistics in Peru

Jeanette González Castro*

Peru, ike many other countries in South America this century, has introduced statistical content to the basic mathematics curricula. This has not achieved the expected objectives however.

As a consequence, the Ministry of Education is now conducting teacher training programs (National Program for Lifelong Education and Training) with the aim of improving educational quality in general, but in particular to strengthen the content of subjects such as communication and logical mathematics. Furthermore, now every university course (including graduate programs, Masters and Doctorate), according to university law, No. 30220 of July 9, 2014, must at least one mandatory statistics course, dealing with design and execution of thesis research.

The promotion and development of statistics and statistical culture in Peru, has also been strengthened with the spread of the International Statistical Literacy Project (ISLP) of the International Association for Statistical Education (IASE) of the International Statistical Institute (ISI) since 2014. However, as the National Dean of the College of Statisticians Peru (COESPE) and Country Coordinator of Peru, explained in Communique No. 7 (COESPE, 2014), owing to a lack of resources, regional and a national competition could not be organized. Nevertheless, by motivating mathematics teachers to conduct research with their students and present their findings in posters, we hope to find a way to participate in the ISLP Poster Competition for 2016–2017, held under the auspices of the 61st ISI World Statistics Congress in July 2017 in Marrakech. Furthermore, with the support of government institutions and agencies we will also participate in the 12th Latin American Congress of Scientific Statistical Societies (XII CLATSE), which this October will be held in Chiclayo and the 18th National Congress of Students of Statistics (CONEEST) which this year takes place in Huaraz, Ancash. ■

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PORTUGAL

Don't Let Me Down!

Portuguese Moves Towards Statistical Literacy!

Maria Nascimento*

To abandon completely the definition of "invisible science," Statistics still has a long way to go. On the part of the young, this has been an increasingly attractive area, on the other hand, the business community must be aware of the benefit that Statistics can have in their investment decisions.

Maria Eduarda Silva, President of the Portuguese Statistical Society

The Portuguese have been involved and have participated in the ISLP international competitions since 2007, sometimes winning prizes and honorable mention. Prior to that ALEA had provided materials and student challenges with the aim of actively fostering statistical literacy in Portugal. In 2007 Statistics Institute of Portugal (INE) and the Tomaz Pelayo Secondary School joined forced to develop a website that won the ISLP Best Cooperative Project Award.

At around the same time the Portuguese curricula was re-organised in both elementary and secondary school levels to give data analysis greater importance Teachers skills were developed, allowing them to teach more about the investigative cycle in statistics, making sense of data, and connecting statistics to the everyday lives of students. In addition, the National Foundation for Science and Technology (FCT) financed some projects like "Developing statistical literacy: Student learning and teacher education".

The Portuguese Statistical Society (SPE) has been also involved in initiatives like the 2013 International Year of Statistics and subsequently initiatives that highlight science as part of citizens' daily life, including the International Statistics Day celebrated every year on 20th October. Last but not least: INE, SPE and the Alive Science Project (Ciência Viva) received the international award IASE-ISLP Best Project Award for Statistical Literacy 2015 for their exhibition "Explorística" which has been shown at all Portuguese schools and in some Spanish schools also.

Like in the Chain-smoker song "Don't let me down ... I need you, I need you, I need you right now", we could say the same of Portuguese Statistical Literacy. It continues, and now we are preparing for the 2016–2017 ISLP International Poster Competition!

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RUSSIA

Statistical Literacy in Russia

Kate Nikulina* and Sergei Nikitaev**

The Federal State Statistics Service has been involved in the International Statistical Literacy Project (ISLP) of the International Association for Statistical Education (IASE) and the International Statistical Institute (ISI) since 2013.

The Project, which is aimed at supporting statistical literacy has found a response among students, teachers and heads of educational institutes.

More than 500 students from 39 regions of Russia took part in this Project from 2013 to 2016. Their works contained relevant statistical topics, were practically orientated and creative.

All winners of the national competition were awarded with diplomas and certificates by Rosstat, and a note of thanks was sent to all competition participants by the Head of the Federal State Statistics Service- Alexander Surinov. The best works are available on Rosstat's web-site.

Rosstat also carries out work with mass media to promote statistical literacy. The number of public events in various formats has increased (press conferences, briefings, round tables, interviews and Rosstat's direction comments in the mainstream policy Plan of Rosstat).

Due to the fact that Rosstat is the only supplier of official statistics, its citation index is one of the highest among the executive authorities, so that the communication strategy of the press office focuses on events aimed at the promotion of statistics and educational activities.

The public is systematically informed about socially important and relevant areas such as: the consumer price index, industrial production, assessment of GDP dynamics, data on population movement in Russia, employment and unemployment data.

Some measures were taken by Rosstat to improve the status of working as a statistician, e.g., celebrating the Day of Statistics (June, 25) and the International Day of Statistics (October, 20). On the 70th anniversary of the Victory in the Great Patriotic War "The Great Patriotic War. Jubilee statistical book" was published.■

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SAUDI ARABIA

Statistical Literacy Activities in Saudi Arabia

Alaa Althubaiti*

In 2015, Saudi Arabia participated in the ISLP poster competition for the first time. Of the 19 national posters in the older category, the Saudi Arabian team ranked 7th. Congratulations to all students and their teacher and mentors that allowed them to be part of this exciting competition!

The General Authority for Statistics (GaStat), have launched their first national strategy of Statistical Development. It aims to improve the use of statistical data and information in the Kingdom, and meet most of the needs of users by providing statistical data that is easy to use in a timely manner. It also aims to strengthen the statistical knowledge in society through education and awareness.

GaStat have recently published data on a number of new social and economic issues. Educators can play an important role in their success by ensuring that students understand what statistical data is and what is needed to complete a census form. This could be introduced as an extra-curricular activity in classrooms, allowing students to understand how information is collected in a census.

The "1st Saudi Epidemiology Conference" was organized by The Saudi Epidemiology Association, and took place on November 24–26, 2015. A discussion group on Statistical Education was organized after the conference to strengthen statistical knowledge within the society through education and awareness. The group shared ideas and experiences on the statistical education and its part in the curriculum of other majors.

Two large studies targeting the evaluation of attitudes of undergraduate students towards statistics have been funded and approved in February 2016 by the King Abdulla International Medical Centre. The studies are expected to be completed in 2017–2018. ■

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News from SENEGAL

I'm **Omar Sene***, I come from Senegal where I work as a statistician in the National Agency of Statistics and Demography (ANSD). I am also a member of the executive committee of the ISIbalo young African Statistician for the period 2016-2018.

It's known that most governments in developing African countries do not appreciate the power of statistical information and consequently do not adequately fund statistics. Senegal is a West African developing country where almost half of adults are not literate. Thus, the promotion of statistical literacy remains a significant challenge. Since 2004, many efforts have been made to enhance the National Statistical System (SSN) through the creation of the National Agency of Statistics and Demography (ANSD), replacing the Department of Forecasting and Statistics (DPS). The 2013 population census, statistics on GDP growth, employment, poverty, prices, and the current General Census of Enterprises have all helped to illustrate the important role played by statistics in the development of a country.

In the coming years, my goal, as an ISLP country coordinator, will be to promote statistical literacy among both young people and those without access to education. The participation of Senegal in the ISLP poster competition 2017 will make an important contribution towards this goal and addressing the challenge of improving data literacy.

Recently, ISIbalo AYS chapter Senegal was lunched. In our strategic plan, it is planned to create, with many young Senegalese statisticians, a committee that will use data from census and surveys, done by ANSD, to produce scientific articles to improve statistical literacy in Senegal.

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SERBIA 

Report from Serbia

Zagorka Lozanov-Crvenković*

Teaching statistics in Serbia is mainly organized at graduate level, by different faculties at Universities in Belgrade (http://bg.ac.rs/en/index.php), Novi Sad (https://www.uns.ac.rs/index.php/en/), and Niš (https://www.ni.ac.rs/en/). The importance of statistics is increasingly recognized, thus more and more curricula contain statistical courses.

The University Centre for Applied Statistics (http://ucps.uns.ac.rs/) was founded at the University of Novi Sad, providing post-graduate level studies in applied statistics.

SDS- the Statistical Society of Vojvodina (http://sdv.pmf.uns.ac.rs/) organizes lectures on different topics in statistics. These lectures are held regularly several times a year. The list of lectures can be found at (http://sdv.pmf.uns.ac.rs/files/Predavanja.pdf).

This year, the Faculty of Sciences, at the University of Novi Sad, organized a series of lectures, "Face to face with science" promoting science. One of them, titled "Could the world exist without statistics?" presented various applications of statistics. The lecture can be found at http://www.kcns.org.rs/ciklus/zapocet-ciklus-oci-u-oci-sa-naukom/ ■

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SLOVAKIA 

Statistical Literacy as an Important Factor for Building a Conscious Civil and Knowledge Oriented Society

Ladislav Kabát*

When discussions on statistical literacy begin, at least three aspects should be underlined.

Firstly, for civil society, it is extremely important to have sufficient information on economic growth, as well as reliable indicators regarding the social progress and social situation of a nation's population. Basic statistical knowledge enables citizens to continuously evaluate the implementation of political programs promised by local political parties prior to elections. It also enables the citizens to become qualified citizens.

In Central and Eastern European countries, where civil society is still in development, such knowledge has particular importance. Continuing problems with corruption, tax evasion and creative accounting could be better understood if these issues were presented and interpreted through relevant statistical data.

Fairly good economic results, measured by the growth of GDP per capita, are frequently presented by political leaders as the key barometer of successful governance. However, other social indicators, which identify high levels of unemployment or the proportion of the population living below the poverty line, raise the serious and challenging questions. They indicate that GDP growth does not simultaneously result in an improvement in the quality of life experienced by households and individual citizens. Improved statistical literacy can help citizens to understand the difference between economic growth and quality of life.

Indicators on social progress, income distribution and inequality, poverty and the situation of the most vulnerable populations are not well understood by or not clear to the majority of citizens. Improving this situation requires more attention.

A systematic effort to improve this situation has been carried under the auspices of the Statistical Office of the Slovakia, which systematically presents the EU SILC project, not only to professionals, but also to the public media and broad academic community.

Secondly, improved statistical and digital literacy is an important qualification criterion for citizens who wish

to avail of a broad range of services, where literacy is sine qua non. Take for example the growing interaction between people and the financial markets and institutions. The complex products on offer to general public must be carefully evaluated before accepting them. Only with an improved statistical understanding of product parameters can families and individuals protect themselves against the potentially destructive aspects of the financial markets.

Third, an important tool in enhancing the development of statistical literacy is the openness of the statistical products that already exist to qualified candidates for in-depth statistical analysis. Statistical data should be open to as many users as possible. There are good examples of this. A number of universities, colleges and faculties maintain long-term working contacts with the Statistical Office of the Slovakia allowing them to exploit not only their statistical databases, but also their specialist knowledge. As teachers, we can observe the positive experience that comes from working with the "live statistical data", allowing them to develop a better understanding of the theoretical aspects of statistics.

Despite the positive results from the programs to enhance statistical literacy indicated above, it would nevertheless be useful to organize a systematic exchange of experiences between EU Member States on their results in promoting statistical literacy. A special workshop, as well as a joint website supporting statistical literacy could be considered. In the case of Slovakia, which currently serves as the Presidency of the EU, the issue of statistical literacy will be raised during a special seminar, which will take place later this year. ■

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SLOVENIA

Statistical Literacy in Slovenia

Amalija Žakelj*

Statistics and Curricula

In Slovenia, data processing and statistics is taught as part of mathematics. Although a basic knowledge of data processing and statistics usually does not present problems for pupils/students, their knowledge and underlying understanding of statistics is often questionable. At school, when dealing with the statistical content there is not enough emphasis on the comprehension of content, and insufficient emphasis is given to statistical reasoning, although the relevant curricula specifically provides for it. In school practice we still lack the instruction which would adjust the statistical contents so that pupils/students could improve the quality of their statistical literacy acquisition.

According to the mathematics curriculum for primary schools, pupils are expected to master a basic knowledge of data processing: collection, structuring and presentation of information, planning and implementation of simple empirical investigation, critical analysis of the results, presentation of the results, interpretation of data, understanding and the use of the arithmetic mean, mode and median, the use of computer spreadsheets and critical evaluation of information on the web and elsewhere (Mathematics curriculum for elementary education, 2011).

On completion of the high school education school mathematics curriculum, students are expected to have mastered basic statistical concepts, information types, data collection, editing and structuring data, displaying data (column diagram, position diagram, pie diagram, a histogram, dissipating diagram, line and curve diagram), arithmetic mean, median, mode, range interval, standard deviation, semi-quarter spacing, a statistical survey (Mathematics curriculum for Grammar Schools, 2008).

Undergraduate education of teachers

In Slovenia, students learn statistics through mathematics, which means

that mathematics teachers are teaching statistics. Consequently, for the successful development of statistical literacy it is essential that teachers are well educated in this field. In Slovenia, university studies teaching mathematics concentrate on probability and less on other aspects of statistical content. As a result, future mathematic teachers do not get the opportunities to deepen their knowledge of statistics during their studies.

Changing pedagogical practice

Based on reports from primary school mathematics teachers on the teaching of statistics delivered to study groups and expert meetings, we have discovered that teachers have mostly used methods of teaching which particularly underline the computational aspect of solving statistical cases and have emphasised mathematical thinking. Unfortunately, teachers often introduce certain statistical content unrelated to other contents, and do not choose tasks that are familiar to students. Statistical problems are often artificial and not taken from the students' real life experiences. Therefore, a real understanding of problems and problem solving are neglected. This method of teaching and learning statistics certainly does not develop statistical literacy.

We have furthermore noted that teaching statistics as part of mathematics sometimes results in too much emphasis being placed on the "mathematical" elements, which only develops an understanding of concepts and procedures related to mathematical problems. This method of teaching, of course, does not contribute to the quality of statistical knowledge, and even less to developing and raising the level of statistical literacy, which should be the primary objective of teaching and learning statistics.

Research

An important contribution in overcoming the above mentioned practices is a survey conducted between 2014 and 2016 by the Faculty of Education in Koper, University of Primorska, entitled "Influence of teaching and learning of statistics in the development of statistical literacy". The author, Ms. Bon Klanjšček (2016), established a special approach to learning and teaching statistics, which is based on realistic statistical problems and on relevant problem situations that arise from everyday life and in which students develop the use of statistics in real-life situations and thus improve their statistical literacy.

Recently, both, in the compulsory nine-year basic education as well as in high schools of Slovenia, statistics has been given more attention than in the past (a revised curricula from 2008 and 2011 introduced these contents more systematically throughout primary schools and grammar schools; providing more accessible materials for teachers; more research papers using statistics, etc.). So the situation is improving. But it is still necessary to devote more time to statistics and develop more relevant statistical content for undergraduate studies of future teachers. ■

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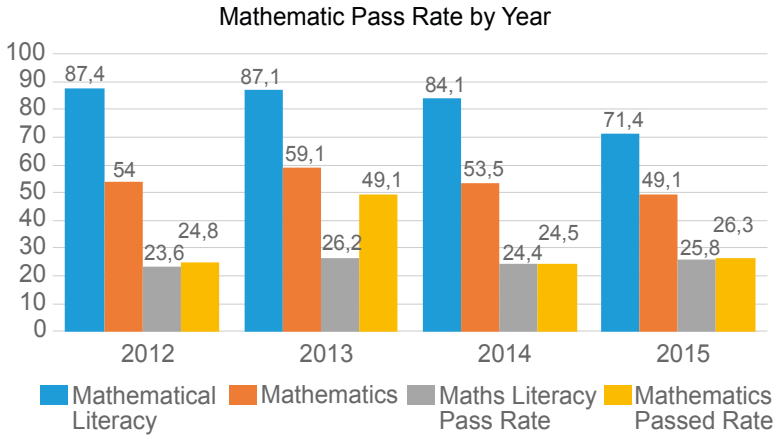
SOUTH AFRICA

International Statistical Literacy Project (ISLP) South Africa

Motimedi Sekhobela* and Unathi Spambo**

The drive for statistical literacy has escalated within the country, with South African government incorporated Data Handling and Probability in the school curriculum from Grade 10 –Grade 12. International Statistical Literacy Project (ISLP) requires participation of different schools in creating posters on matters that are critical within the country. The target is mathematics learners within different schools, In South Africa from 2012–2015 about 491 513 learners passed Mathematics above 30% and about 1 076 970 passed mathematical Literacy above 30%, the National Development Plan envisage to produce 450 000 pass in mathematics by 2020.



Team South Africa selected four Schools to participate in this project, two schools from North west (Rural Schools), one Gauteng Mamelodi (Urban School), one Western Cape (Urban School) and one from KZN (Rural School), currently negotiations has started with a Deaf school in Limpopo Province that will be part of this project.

Learners has to identify the topic, give the background around the topic, and gather data that speak to the topic, analyse and produce findings and recommendations. The winning poster will be showcased at the ISI 2017 conference to be held in June 2017, it is anticipated that the results of this project be part and participation of the coming prestigious Conference IUSSP of the IPC 2017 that will be hosted In Cape Town 28 October-04 November 2017. ■

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SPAIN 

Great News from Spain!

Ana Serradó Bayés*

In the past few years, interest in Statistical Literacy has increased among different stakeholders, such as the Instituto Nacional de Estadística (INE) or the Sociedad de Estadística e Investigación Estadística (SEIO). Those organizations jointly with some Spanish Universities have organized a number of different activities this year with the aim of encouraging students to enjoy "doing statistics" at school and university level, and also help the Spanish citizen to discover how statistics can help explain and solve some of mankind's problems.

At the school level, there are two activities to be mentioned: the "Olimpiada estadística" and the "Incubadora de sondeos y experimentos". In their fifth and sixth editions respectively, these activities are consolidating the aim of promoting the interest of statistics between students and teachers of different communities and languages in Spain. The "Olimpiada estadística" is aimed at secondary school students, teaching them to analyse and interpret official INE data on the Equipment and Use of ICT at home. The "Incubadora de sondeos y experimentos" challenged secondary school students to design and perform their own research based on an experiment or a survey in any field of interest.

The University of Zaragoza developed a programme entitled "Circuito Estadística-Geología" where teachers from the Department of Statistical Methods and scientists (Environmental Sciences University Institute) allowing students to improve their understanding of how the concept of hazard and uncertainty influence most of our everyday tasks.

We consider that the main advances in promoting statistical literacy are those actions related to spreading information on the role of statistics among citizenship. An important development here has been the "Explica" webpage developed by INE. A second initiative, named "Operación divulga" for undergraduate students of the University of Sevilla, involved in the statistical work. Finally, the webpage "Divestadística" developed by the Andalusian School of Public Health and directed by the ISLP Spanish Coordinator, Ricardo Ocaña to promote statistics. ■

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SRI LANKA 

How Statistical Literacy has been Improved in Sri Lanka

T.A. Dharmartane*

Statistical literacy is defined as the ability to understand the real meaning of statistics published for different purposes. It is necessary for a nation to understand statistics presented in such publications as newspapers, periodicals, television and the Internet. "Statistical literacy involves the ability to read and interpret the data in tables and graphs published by the government statistical associations"[1]. Statistical literacy has long a history but it has only recently become a goal for statistical academicians and professionals. 'Skill' is the ability to use one's knowledge effectively and readily in execution or performance. Statistical skills for certain categories of employees are essential to raise their productivity as well as to life the overall performance of the economy. The need for statistical skills becomes critical in higher learning of medical, agricultural, social and behavioral sciences involved in practical research projects. Researchers cannot ignore statistics. It is an essential tool for designing research,

1 Gal, Functional demand of statistical literacy: Ability to read releases from statistical agencies. IASE. At www.stat.auckland.ac.nz/~iase/publications/3/016.pdf, 2003

processing & analyzing data and drawing inferences. This article examines some of the socioeconomic reasons for poor statistical literacy and skills across the general public in Sri Lanka. The prime objective of the article is to provide a brief overview of how statistical literacy has been improved in Sri Lanka and to identify the problems and challenges for the improvement of statistical literacy and skills in a small country.

Sri Lanka is a small developing economy with an excellent track record for collecting, tabulating, analyzing and disseminating various types of socioeconomic, political, environmental, health and other statistics. These statistics are used for variety of planning and policy making activities by public institutions and other national and international organizations.

A number of key government institutions are responsible for data collection and dissemination in Sri Lanka. While the Department of Census and Statistics (DCS) has the mandate for all national level statistics, the Central Bank of Sri Lanka (CBS) is responsible for compiling some economic and social statistics. The Hector Kobbekaduwa Agrarian Research and Training Institute (HARTI) is responsible for collecting and disseminating agricultural price data, particularly food prices and market information for the purposes of measuring food security and providing price signals for agricultural marketing stakeholders, including small farmers and policy makers.

Despite the bright picture regarding data collection and dissemination, there are some dark spots. Lack of general statistical literacy and unavailability of skilled individuals to collect, analyze and disseminate data are key drawbacks for the country. Similarly, there is no proper legal obligation to collect and update some vital data. The general public is not interested in many important statistics despite the relevance to their lives, neither have they received any basic training to help them understand those vital statistics. There is significant potential develop statistical literacy in Sri Lanka, owing to the country's generally high "literacy rate", comparable to that found in developed countries. Therefore, there are huge opportunities and possibilities for the further development of statistical literacy.

A limited number of training programs are conducted to improve statistical literacy skills though it is not sufficient to meet the modern data requirements of the country. Sri Lanka has ample capacity and capability to further expand and improve statistical knowledge and usage. Some programs are not placing sufficient emphasis on statistical literacy, resulting in a general public not equipped to make use of statistics in their day-to-day life. The potential dividends arising from investment in statistics cannot be realized as a result.

High Potential and Opportunity for Further Development of Statistical Literacy in Sri Lanka

Years	Human Development Index	Life Expectancy at Birth	Literacy Rate
2010	0.738	74.1	91.9
2011	0.743	74.9	92.2
2012	0.749	75.1	92.6
2013	0.752	74.3	92.5
2014	0.757	74.9	92.6

Source: Central Bank of Sri Lanka and UNDP

Essentially, all professionals, statisticians, economists, agriculturalists, sociologists and politicians in developing countries are facing the challenge of how to properly measure and understand the new global economy in which they heavily involved. Sri Lanka is no exception. The problems and challenges of statistical literacy and skills are not unrelated.

Lack of cooperation from respondents, an absence of policy priority regarding statistical literacy and skills, unorganized planning structures and lack of standardization, financial and other resource constraints and poor public awareness programs on statistics literacy are few of the massive challenges facing the enhancement of statistical literacy and skills. To improve the utility of statistics and their relevance to Sri Lanka's social and economic development, key government statistics agencies must continue to work to promote statistical literacy in the community. For that, a good understanding of statistical concepts and methodologies and their interpretation is essential to the proper and effective use of official statistics. ■

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News from SWAZILAND

My name is **Nontokozo Simelane*** and I am part of the 'ISI balo' capacity building programme aimed at building and grooming future African young statisticians. In May 2016, I completed my undergraduate degree in Social Sciences with a double major in Demography and Urban & Regional Planning at the University of Swaziland. I will graduate in October 2016.

I am the team leader for team Swaziland. My three team members, also a part of the 'ISI balo' capacity building programme are:

1. Lindelwa Nxumalo
2. Tenanile Nono Nhlabatsi
3. Felix Sipho Mamba

Together we will act as country coordinators. The International Statistical Literacy Project (ISLP) aims to strengthen statistics and statistical capacity across the world. Our team would like to contribute to improving statistical capacity in Swaziland. We would like to help improve statistical and mathematical literacy in Swazi schools as we have seen that there tends to be poor statistical literacy, especially in government and private schools in the country. Our goals as country coordinators are as follows:

- To contribute to statistical capacity building for young people.
- Improve numerical and statistical literacy in Swazi schools as it is better to start when students are still young. This can be done by implementing programs aimed at improving statistical literacy. The earlier statistics are introduced to students' curriculum the better.
- To place greater emphasis on data handling and probability.
- Encourage the use of data to implement policies towards the development of the country.
- To hopefully encourage teaching colleges to include statistics in syllabus for practicing teachers.
- To determine whether mathematics teachers in the country are able to teach data handling and probability. If they are not, we will suggest that the ministry of education requests assistance from the Central Statistics Office to provide training for teachers or directly to high school students.
- To create a relationship between the organization with the Central Statistics Office of Swaziland and the Ministry of Education because they can help us reach the schools that are in dire need of our help.

We also noticed that the University of Swaziland Statistics and Demography department does not do any outreaches where they go to Swazi high schools and inform them about statistics as a form if career choice, therefore we as the country coordinators would like to see the University starting with these outreaches because they would be of great help to the students.

We look forward to working with you all.

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TANZANIA

Statistical Literacy Improvement Report – Tanzania 2016

Elieza Paul Milonga*

Tanzania joined the Global Partnership for Education (GPE) in 2013. Covering the period 2008-2017, the GPE-funded programs have led to the following outcomes:

A new curriculum for reading, writing, and arithmetic has been developed and used to train 18,680 teachers and facilitators and provided 16,000 primary schools with new learning materials, improving arithmetic (numerical skills) among young people in primary and secondary schools. Although there is a growing recognition of the importance of statistical literacy across the country, in a variety of different aspects of life, in the past few years statistical educators have continually emphasized the need for statistical literacy in any reforms of statistics and numeracy education.

Elieza Paul first from the right

The National Bureau of Statistics (NBS-Tanzania) through its newly enacted 2016-Statistical Acts has been taking initiatives to educate the public on the importance of statistics for society, and raising the profile of statistics by developing more effective and responsive regional statistical offices and enhancing the National statistical system. The NBS also plays an important role in nurturing public support for statistical activites, explaining the role of statistics as a resource for evidence-based policy and decision making and illuminating the role of statistics in result-oriented and innovative management, monitoring and evaluation, and planning.

The ISLP-Tanzania is aimed at extending the teaching of statistical literacy to other spheres of life in Tanzania. The main target groups are as follows: citizens and the media; educational institutions (secondary school and upper secondary school-age students); universities and research institutions; decision-makers; libraries; and national statistical agencies. The last target group is important as they can promote statistical literacy and improve visibly at the national level.

Tanzania is participating in 2016/2017 statistical literacy poster competition as a step forward to improving statistical literacy. To date 30 students have registered for the competition and the number is expected to reach 100 students by early July or August when they return from their school holidays.

However, ISLP-Tanzania is facing some financial difficulties as not all of the stakeholders (or sponsors) fully understand the potential application of statistics to them. But, we are trying to mobilize people and resources by writing an ISLP-project proposal that will be shared with different governmental and non–governmental organizations. In addition, more than 100 university students have shown their interest in supporting and participating in the promotion of the poster competition 2016/2017 in the wider community. ■

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Improvement of Statistical Literacy Project in Tanzania

Johannes Kagombora Makwandi*

Back Ground Information

The United Republic of Tanzania comprises the Tanzanian mainland and the islands of Zanzibar and covers a total area of 947,303 KM^2 of which, 61,500 KM^2 (approximately 6.4 percent) is inland water. It is located between the longitudes 29° and 41° East and latitudes 1° and 12° South. Tanzania shares borders with eight countries: Kenya and Uganda on the North; Rwanda, Burundi, Democratic Republic of Congo, and Zambia to the West; and Malawi and Mozambique to the South. Zanzibar comprises of two Islands: Unguja and Pemba, which occupy an area of 2,500 KM^2 and are located in the Indian Ocean, east of the Tanzanian mainland. According to 2012 Tanzania Population and Housing Census, the population of Tanzania was 44.9 million.

Tanzania like other countries in the world should improve the statistical knowledge (literacy) of society; especially the local society who have minimal knowledge of core statistics such as inflation, Gross Domestic Product (GDP), employment and unemployment rate, poverty or agriculture.

To improve the production of quality statistics, developing countries including Tanzania should invest in their youth. Encouraging and developing statistical programs for each of the educational levels- primary, secondary levels and with particular emphasis on tertiary and university level.

Such an investment will introduce students to some basic statistical concepts and help them appreciate the importance of having quality statistics for planning, implementing and assessment of development programmes.

Objective

The objective of the International Statistical Literacy Project (ISLP) in Tanzania is to improve statistical literacy among young people in both lower and upper secondary school students. To help students understand the usefulness of statistics for decision making and their importance in society more generally.

My ambition as a country coordinator of the ISLP is to ensure that all communities have some knowledge of core statistics, such as: inflation, GDP, employment and unemployment rates, agriculture statistics, industrial statistics and the Census of Population.

Why Statistical knowledge is important for the younger generation?

Statistics is the key to development of a society. Without statistics, development programmes cannot be properly planned undermining the successful implementation of development goals in society. So, it is important that the younger generation develop a knowledge of statistics. The United Nations Sustainable Development Goals (SDGs) are to be achieved by all countries; to achieve these goals **quality data** will be mandatory, illustrating the important role that statistics play in the development of country.

Which purposes of having the literacy of statistical in the younger generation?

Improving statistical literacy will help to achieve the SDGs. Societies must have a knowledge of core statistics to inform planning and development.

Plans as country coordinator of International Statistical Literacy Project in Tanzania:

To meet the objectives of the ISLP by;

— **Form statistical clubs** in both primary and secondary schools to motivate students to apply what they learned as part of their statistics course.

— **Conduct seminars** at primary secondary and university level institutions.

— **Organise the school competition and award** by providing the infrastructure and awards. The competition will be organised hierarchically- school level, region level and finally National level.

— **Increase awareness,** by using community mobilization techniques. ■

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TOGO

Statistical Literacy Promotion in Togo

Banawe Plambou Anissa*

The development of the statistics fields is a vital componenfor any country's development perspective. Nowadays, it more crucial in African countries with poor quality of data and the subsequent negative implications on the economic policy-making decisions. As such, the government of Togo with technical and financial support from regional and international institutions (AFRISTAT, European Union, United Nations Statistics Division, …), have initiated during the previous years a set of actions towards the establishment of a viable national statistical system and the promotion of the statistical literacy in the country :

— The reform of the national statistical system including the adoption of a strategy and initial training plan thanks to support from the European Union (EU) through its institutional support program to Togo

— The Celebration of the World Statistics Day in Togo on 20 October 2015 and to the African Statistics Day JAS 2015, November 18, 2015

Concerning the reform of the national statistical system, the Statistics Law of Togo No. 2011–2014 on the organization of statistical activity in Togo, adopted and promulgated on 3 June 2011, has defined a new legal, institutional and organizational framework for the national statistical system with the creation of a new coordinating body is the National Statistics Council (CNS) and the transformation of the General Directorate of Statistics and National Accounts (DGSCN) into an institute with legal personality and administrative autonomy and management: the National Institute of Statistics and Economic and Demographic Studies (INSEED). The CNS was established and is operational since 2013 and the decree on organization and functioning of the National Institute of Statistics and Economic Studies and Demographic was signed on 24 February 2015.

Recently, a new initiative have been developed in the last months with the aim of promoting Statistical Literacy in Togo. This is the launch of the training of Statistics Techniques Agents (ATS). The National Institute of Statistics and Economic and Demographic Studies (INSEED) in collaboration with the European Union officially launched on February 22, 2016 in the premises of the National School of Administration (ENA) in Lomé, the training of technical staff of Statistics. This training of twelve (12) months is for the non-statistician staff working within in the national statistical system and possessing the prerequisites required for such training. This initiative is to respond to a particular context for the Togolese national statistical system's difficulties in terms of current shortage of professional human resources in statistics. In total, fifty unskilled government employees involved in statistical production, selected following the competition of recruitment of middle managers of Statistics, held on 13 July 2015, are enrolled in this training whose launching ceremony was officially chaired by the Minister of Public Service, Labour and Administrative Reform in the presence of Ambassador and Head of Delegation of the European Union in Togo and the heads of the technical partner institutions (ENSEA-Ivory Coast, ENA-Togo, and INSEED- Togo). ■

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TRINIDAD AND TOBAGO

Greetings from Trinidad and Tobago

Isaac Dialsingh*

In Trinidad and Tobago I am engaged with the creation of new programme offerings at the University of the West Indies. The University of the West Indies has 3 main campus: St Augustine Campus (Trinidad and Tobago); Cave Hill Campus (Barbados); and Mona Campus (Jamaica). Statistics degrees are offered at Mona and St Augustine.

I assisted with the development of BSc degrees at the St Augustine Campus of the University of the West Indies, where we have developed the following programmes:

a BSc in Statistics and Economics; a BSc in Mathematics and Applied Statistics; and a BSc in Statistics. All these degrees make use of existing courses offered at St. Augustine and so we have had to create only a minimal number of new courses.

BSc in Statistics and Economics

This degree is meant to produce economists with good quantitative skills. Within our local context, students can gain employment at the Central Bank or at the Central Statistical Office of Trinidad and Tobago. The degree is basically a major in statistics and a major in economics. Electives are present to allow some but not much flexibility in the curriculum because of the fixed number of credits for our degrees. The degree spans over a 3 year period.

BSc Mathematics and Applied Statistics

The aims of this degree are: to produce graduates with strong mathematical skills and with a sufficiently sound knowledge of statistics to apply statistical methods appropriate to the solution of problems in science, business, public health, government, education and other areas; to lay a strong foundation for graduate work in Statistics; and to produce graduates aware of and sensitive to the English speaking Caribbean and the wider Caribbean and Latin American region of which we are a part.

BSc in Statistics

The Bachelor of Science degree in Statistics is meant to have more or less the same objectives as the other degrees. However, there is flexibility within the degree to have a minor in many of subjects such as psychology, management studies and finance. Statistics as a stand alone subject is hardly a marketable skill in developing countries if it is not mixed with a subject that makes it more practical in our local setting. ■

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UNITED STATES

Statistical Literacy in the US: 2016

Milo Schield*

The Everson (2016) draft update to the ASA GAISE guidelines (2005) is arguably the biggest recent event involving statistical literacy in the US. This draft update involved two major changes:

First, the Everson (2016) committee dropped support for statistical literacy by changing the first college recommendation from "emphasize statistical literacy and develop statistical thinking" to "teach statistical thinking." In an earlier survey, the Everson committee (2015) said, "It appears that some feel the original recommendation to 'emphasize statistical literacy and statistical thinking' might be too confusing and might appear to get at two very different things. There is concern that not everyone may understand what is meant by 'statistical literacy' and 'statistical thinking'."

Second, under the new first goal (Teach statistical thinking) the Everson (2016) committee inserted two sub-goals:

— Teach statistics as an investigative process of problem-solving and decision making.
— Give students experience with multivariable thinking."

Doesn't this mean that "statistical literacy" is being rejected? And if so, isn't this committee being oblivious to – if not disrespectful of – all the work involving statistical literacy that hundreds – if not thousands – of statistical educators have done? Isn't this committee ignoring the support for statistical literacy so evident in the original GAISE guidelines? Doesn't this undermine support for the International Statistical Literacy Project?

I say "No!" This GAISE update committee noted the most obvious fact about statistical literacy: the inability of statistical educators to agree on a common, generally-accepted definition. Instead, look at what the update recommends:

> "Offering a consumer-based statistical-literacy course (p.6), • helping students become critical readers of statistics in popular media based (p.8), • presenting "the investigative process through which statistics works" (p.9), • giving "students experience with multivariable thinking" (p.3), • helping students understand "the possible impact of … confounding variables" (p.32), • showing how "a third variable can change our understanding of a relationship" (p.32), • helping students "identify observational studies", (p.39) • teaching multivariate thinking "in stages" in introductory statistics (p.39), and • using "simple approaches (such as stratification) to address confounding". (p.39)"

As you can see, the committee strongly supports the goals of statistical literacy. And it introduces three big topics (multivariable thinking, observational studies and confounding) as an integral part of introductory statistics. This update presents several ways of introducing multivariable thinking without requiring a second statistics course.

Teaching multivariable thinking in introductory statistics is arguably the biggest addition of new content in decades.

Other news: During 2015, the www.StatLit.org website had over 300,000 visits and over 400,000 downloads. The top-two downloaded-papers involved graphs (Schield 2006 with 3,344 downloads) and confounding (Schield 2014a with 2,857 downloads). The top downloaded Excel instructions involved the log-normal distribution (Schield 2014b with 13,274 downloads). These statistics indicate that graphs, confounding and the lognormal distribution are topics that statistical educators found most interesting in 2015.

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News from ZAMBIA

My name is **Chikoloma Nakazwe***, the ISLP Country Coordinator for Zambia. I hold a Bachelor of Arts Degree in Demography (2013) from the University of Zambia. I am currently serving as the country (Zambia) representative at the continental executive committee of Young African Statisticians. I am also serving as treasurer for the Zambian Chapter executive committee of the Young African Statisticians Association (YASA).

As ISLP Country Coordinator, I will work with the country executive committee of the Young African Statisticians Association to contribute to the improvement of statistical literacy in Zambia. One of the strategies will be to support primary, secondary and tertiary school students in forming active mathematics and statistics clubs in their respective schools. The clubs will be involved in statistical quizzes, debates, paper writing and other statistical competitions among different schools. The winners from debates, quizzes or paper writing shall be rewarded to motivate them. Together with YASA mentors from higher institutes of education and the country chapter executive, we shall continue to provide mentorship to the upcoming statisticians through their statistical clubs in order to strengthen the statistical capacity in the country. Further, we shall continue encouraging leaners to take up statistical challenges. Additionally, we shall establish a user friendly journal publication facility to all the Young Statisticians in the country.

All this shall be achieved by the continued effort to lobby for support to hold seminars for statistical teachers and their students to encourage them and help them remain abreast with the current statistical affairs. ■

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Greetings from ZIMBABWE

Sean Thulani Sithole* is Zimbabwe's country coordinator for the International Statistical Literacy Project (ISLP), as well as a member of the Africa Young Statisticians Executive Committee (Zimbabwe Team leader) under Stats SA's ISIbalo Young African Statisticians Programme. He is currently doing his PhD in the Food Politics and Culture Project, at the University of the Western Cape, in South Africa. He also holds a Masters in Development Studies at the Institute for Social Development, University of the Western Cape. Sean also has experience as a research assistant for two projects on Informal Urban Food Distribution and on Urban Food Security, at the University of the Western Cape, both sponsored by South Africa's National Research Foundation (NRF). In addition, he has held the same position at the Scalabrini Institute for Human Mobility in Africa (SIHMA), which is an NGO which deals with research on migration and human rights of migrants, refugees and asylum seekers, in order to contribute to the development of informed policies that ensures their rights and dignity are promoted.

Improving the statistical literacy in Zimbabwe

— Work in partnership with the government, public and private organisations in promoting and supporting statistical literacy development in Zimbabwe through encouraging evidence-based research in connection to the 'Data Revolution' and the global need to achieve the Sustainable Development Goals (SDGs).

— The promotion and advancement of learning Science, Technology, Engineering and Mathematics at primary, secondary, higher and tertiary education under the STEM programme in Zimbabwe. The aim will be to contribute to the STEM programme through workshops and training programmes that empower participants to use statistical/quantitative approaches and methodologies (including the use of Excel and other advanced programmes like STATA and SPSS) and explain why scientific/evidence based research is important.

— Launch an annual competition on statistical literacy for 'ordinary' and 'advanced' high school students as well as for university students.

— Create a social media (Facebook Page) that shares information on Statistical literacy. ■

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