

ISLP Newsletter

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The first International Statistical Literacy Competition. Phase I summary.



Juana Sanchez, ISLP Director

We closed the first phase of the International Statistical Literacy Competition on November 30th. This first phase was a

of phase one that will compete against others students in their country in phase 2 of the competition. The latter will be a competition at the National Level that will take place in March 2009.

The ages of the students participating in the first phase ranged from 10-18 years old, including Advanced Placement students from the United States. **The exams given in the different categories and different countries can be seen in the ISLP web site:** <http://www.stat.auckland.ac.nz/~iase/islp/competition>

Answer key not already there for those exams will be posted shortly after the holidays. The exams are a public good and anyone is free to use them for educational purposes. For any other purposes, please acknowledge the source.

Overall, it was impressive to see the work of so many young students who wrote long exams of 90 minutes and expressed themselves in statistical jargon. The teachers who trained and encouraged them to participate did a wonderful job and are an inspiration to all of us.

The most common mistakes of students at all levels of the competition were: (a) many students did not know how to summarize a given small data set statistically to answer a question asked; (b) when asked to use the tables and other statistical information provided in the exam to support some recommendation or conclusion, many students chose to use anecdote and their own opinions instead of the evidence, even though they showed in the exam that they could interpret the latter; (c) a common interpretation of a frequency graph or histogram of the number of soda cans drank by students was that as the number of soda cans increased the number of students (the frequency) decreased, as if the histogram was a scatter plot or some sort of mathematical curve; (d) there was evidence in most exams that the training material that

Table 1: Participants and finalists of Phase I

Country	Number of Students Participating	Number of Students that will compete in the national competition
Canada	9	4
Colombia	12	3
Mexico	2	2
Chile	45	5
Spain	58	8
Italy	274	42
USA	170	22
Portugal	352	29
Brazil	154	19
Finland	165	21
France	22	2
Argentina	40	10
South Africa	1587	239
TOTAL	2877	409

competition at the classroom level: teachers registered their students and monitored the exams that the ISLP sent them in their classrooms. The number of students participating in the classroom competition and their countries can be seen in Table 1, columns 1 and 2. Column 3 of the same table shows the number of winners

had been posted by the ISLP was not used for training; (e) although used to ask appropriate plots to show the relation between number of traffic and accidents, no student used scatter plots and only few students did a comparative analysis using bar plots.

Lessons learned from the first phase

This is the very first International competition of the ISLP. The pilot one we did in Portugal in the summer of 2007 concerned only Portuguese students. Thus, there is a lot to learn from the experience during this first phase.

First of all, we can say that there is an outstanding team of colleagues and teachers involved in the promotion of statistical literacy in the countries that ended up participating and those who registered and at the end did not join us. The ISLP advisory board members in the countries participating were the main force behind all the registrations and completion of phase I. The competition could not take place without them. We have many people to thank and you will find their names in the competition web site now or when it is due time to mention them.

Second, in an attempt to prevent obstacles for participation in the very diverse group of countries, the competition was planned in 3 phases over practically 2 years: promotion started in the Fall 2007, phase I has taken place throughout 2008, phase 2 will take place in march 2009 and the final will take place in Durban, august 2009, in cooperation with Statistics South Africa. This means that along the way, students selected in phase I are in a new school level for phase II; some students, namely the 18 year olds, are no longer in school and choose not to continue.

Third, we had twice as many teachers registering students than those participating in phase I. Many teachers that had registered never sent us the list of students, telling us that they had not had time to talk about Statistics in their class yet or simply not responding to our messages (probably changed their minds). Many of these teachers, however, asked us to include them in the next International Competition. So there is a long list of teachers waiting for the Second International Competition.

Fourth, the exams were translated to several languages and some things may have been lost in the translations. Similarly, some cultural aspects of the countries could have been missed in trying to have exams that had the same nature for all countries, albeit allowing for some modifications.

Fifth, the competition is lead by volunteer work, from the Director to the country representative levels. The

amount of administrative work of the first phase was beyond imagination and not recommended for people that already work full time in a regular job. So much so, that the promised certificates of participation and gifts that were promised to the teachers and students are delayed in many cases. But we are working on that.

All of the lessons learned lead us to conclude that in future competitions, phase one and two will be removed and instead only an International phase will be conducted via the Internet. We plan to start the call for that immediately after August 2009, for completion in the months of march of 2010. But these are things to implement in the second competition. For now, we are moving to phase two of the First competition.

Phase Two planning

Most of the countries participating have already formed a national committee of academic, government and school representatives that will work with the ISLP in the implementation of the national competition in March 2009 and will help the ISLP in the search for sponsors for the students that will travel to South Africa. This committee is going to prepare half of the questions for phase two, is going to help the ISLP translate the questions prepared elsewhere and is going to plan the administration of the event. The questions will be online but the event will be supervised by the committees to prevent problems.

Canada adds new resources -In English and in Français



Mary Townsend, Statistics Canada

A new section on the Statistics Canada Learning resources site promotes data analysis projects and fairs. http://www.statcan.ca/english/edu/edu06i_0000-en.htm Students can visit this webpage to get help with their data analysis projects. They'll find lots of tips and guidance on how to collect primary data and where to find and use secondary data. http://www.statcan.ca/english/edu/edu06i_0001-en.htm Of interest are the lively audio podcasts of student interviews recorded live at the 2008 Statistics Canada Data Analysis Fair. http://www.statcan.ca/english/edu/edu02_0015-en.htm Instead of the usual science fair, why not host a data analysis fair? Such a fair helps promote numeracy and

statistical literacy, creates an opportunity to build partnerships within the community, raises the profile of mathematics in schools and helps to recognize and celebrate students' work and efforts. You'll find articles, example projects, judging criteria and more from data fairs that were held across Ontario and at Statistics Canada's head office. Learn how to organize and participate in a data analysis fair.

http://www.statcan.ca/english/edu/edu06i_0005-en.htm

Français

Statistiques Canada a lancé un nouvelle section au site web Ressources éducatives qui donne des renseignements aux projets et salons d'analyse de données.

http://www.statcan.ca/francais/edu/edu06i_0000-fr.htm

Les élèves peuvent visiter cette page Web pour obtenir de l'aide concernant leurs projets d'analyse de données. Ils y trouveront des conseils sur comment recueillir des données primaires ou trouver et utiliser des données secondaires

http://www.statcan.ca/francais/edu/edu06i_0001-fr.htm.

En particulier, sont d'intérêt les baladodiffusions d'entrevues d'élèves, qui parlent de leurs projets présentés au Salon d'analyse de données de Statistique Canada en 2008.

http://www.statcan.ca/francais/edu/edu02_0015-fr.htm

Au lieu d'un salon des sciences, pourquoi ne pas organiser un salon d'analyse de données? Un tel salon sert à promouvoir la numéracie et la culture statistique, à créer des partenariats dans la collectivité, à augmenter la visibilité des mathématiques dans les écoles et à reconnaître les travaux et les efforts des élèves. Nous offrons des articles, des exemples de projets, des critères d'évaluation et d'autres ressources préparés pour des salons de données qui ont eu lieu à travers l'Ontario et au bureau de Statistique Canada. Apprenez comment organiser un salon d'analyse de données ou comment y participer.

http://www.statcan.ca/francais/edu/edu06i_0005-fr.htm

Un tel salon sert à promouvoir la numéracie et la culture statistique, à créer des partenariats dans la collectivité, à au

from the ALEA meeting, the Encontro is a forum that can be atte

Portugal starts 2009 with Statistical Literacy and Statistics Education Research



Fórum “e-Estatística: Numeracia e Cidadania”, January 30th 2009, Lisboa, Portugal

by Pedro Campos and ALEA team



ALEA, the project of Statistics Portugal that won the first Cooperative Project Award in Statistical Literacy of the ISLP in 2007, is organizing the second Forum on “E-Statistics: Numeracy and Citizenship” with the theme “What to do with so much data”? Attendance is free. Deadline for registration and declaration of intention to present work is January 10th, 2009. For more information, go to www.alea.pt or directly to

<http://www.alea.pt/html/encontros/html/forum2009/html/organizacao.htm>

Português

O ALEA vai promover o segundo Fórum “e-Estatística: Numeracia e Cidadania”.

Num mundo em que, cada vez mais, uma população bem informada é uma população mais qualificada, a Estatística assume um papel determinante na forma como lemos a informação e a transformamos em conhecimento. Subordinado ao tema “O que fazer com (tantos) dados?”, este fórum visa agregar docentes, investigadores, alunos, técnicos, etc., de todas as áreas do conhecimento, sendo autores e/ou utilizadores do ALEA, ou que de algum modo contactem com a Estatística.

Realiza-se em Lisboa, no auditório da Escola BI/JI Vasco da Gama, no dia 30 de Janeiro de 2009.

Caso pretenda apresentar uma proposta de comunicação sob a forma de poster, poderá fazê-lo, enviando um resumo de uma página (no máximo) para alea@ine.pt. A data limite para envio de resumos é 10 de Janeiro de 2009 e, para aceitação da comunicação, 20 de Janeiro de 2009.

Mais informações e inscrições em: <http://www.alea.pt> e

<http://www.alea.pt/html/encontros/html/forum2009/html/organizacao.html>

II Encontro de Probabilidades e Estatística na Escola, 21 Fevereiro 2009 Portugal <http://www.iep.uminho.pt/ieepe>

by Maria Manuel da Silva Nascimento



The Encontro is a meeting focused more on research in Statistics Education in schools than on Statistical Literacy. The Encontro is aiming at sharing results of education research studies on the teaching and learning of Statistics, much like the IASE and ICOTS meetings do. It has as a goal also to create awareness of the importance of Statistics and probability in schools and to contribute to the professional development of school teachers.

Português

Objectivos

- Visibilizar a actualidade e importância do ensino de Probabilidades e Estatística na Escola.
- Divulgar resultados de estudos realizados no âmbito da Educação em Probabilidades e Estatística.
- Aprofundar a compreensão do ensino e da aprendizagem de Probabilidades e Estatística.
- Contribuir para o desenvolvimento profissional de professores.

Público-alvo

- Alunos da Licenciatura em Matemática, Área de Especialização em Ensino.
- Orientadores de Estágio da Licenciatura em Matemática, Área de Especialização em Ensino.
- Alunos de Cursos de Mestrado para quem a temática de Probabilidades e Estatística seja relevante.
- Professores do ensino básico e secundário de diferentes áreas de conhecimento.

Other Resources and News

BBC Bitesize for Kids

<http://www.bbc.co.uk/schools/ks2bitesize/>

Contains some Statistics and Probability



Sent by Maria Manuel da Silva Nascimento, Universidade do Alto Douro

Kids Count! Site in the United states www.ssdan.net/kidscount/index.shtml

For students, the site has data resources and analysis tools from US census data related to social justice issues such as children living in poverty; low birth rate; teens not attending school, not working; teen death by accident, homicide and suicide, etc.



I thought it was an interesting site in terms of perhaps a link for the american Census at School pilot project and to see the online data analysis tools used.

Contributed by Mary Townsend, Statistics Canada

The Evidence Gap Series

Articles in this series are exploring medical treatments used despite scant proof they work and examining steps toward medicine based on evidence. http://topics.nytimes.com/top/news/health/series/the_evidence_gap/index.html

The New York Times

Editor: Juana Sanchez, ISLP Director

Contributors in this issue: Mary Townsend, Pedro Campos, Maria Manuel da Silva Nascimento.

Please, submit your resources, and articles to jsanchez@stat.ucla.edu Keep the ISLP informed. Sending the news in your native language is encouraged.