Report from the Standards Committee
Committee members

• Chair
  • Pascale Gaudet SIB

• Members
  • Pedro Fernandes IGC *
  • Judit Kumuthini CPGR *
  • Bruno Gaeta APBioNet **
  • Vicky Schneider-Gricar TGAC
  • Patricia Palagi SIB **
  • Manuel Corpas TGAC *
  • Fran Lewitter ISCB
  • Sarah Morgan EBI **
  • Mike Charleston *

• 'Listeining in'
  • Erik Bongcam-Rudloff SGBSeqAhead *
  • Michelle Brazas OICR
  • Cath Brooksbank EBI

***quantitative assessment of participation to the TCs
- Not to make any judgments!
- Many people are in many committees, so we cannot expect 100% attendance
- Committee size is good; we have a nice ‘core’ that attends most meetings
State of the committee before election

• One phone conference had taken place in Sept 2013 to discuss ‘Badges’ as a mechanism of recognition of competencies
What has been achieved

• Conference calls in March, April, June, August, and October 2014
• In-person discussion between Patricia, Terri and Pascale in June 2014
• Outcome: A better definition of the scope of the task
• This may sound trivial, but....
Scope of the task had to be defined

- **Who** are we trying to evaluate? Learners, instructors, course organizers, etc? Members of the SC committee try to evaluate one or many of these participants in training programs.
- **What** are we trying to evaluate? The contents of the courses? The skills taught in a given course? The skills acquired?
- **How** will we evaluate courses, instructors, learners?
More about Badges
*(since this is where we started)*

Summary of the Sept 2013 TC
- Mozilla developed Open Badges
- Pedro has tested out how to use this system within his own work and issued badges to teacher and participants
- General consensus on using the Open Badges system for accreditation

- However, that opened many questions:
  - **What to badge?**
    - Trainers
    - Organizer
    - Helper
    - Participant (although this is explicitly stated in our Task Force Purpose and Action Plan, that we do not cover; GOBLET however should offer trainers and organizers tools and resources for how to go about providing badges to participants)

- **Criteria for Badge?**
- **Evaluation Strategies for Criteria?**
Roadblocks encountered

- The Standardization committee started to work on badges, and aiming to find mechanisms to recognize the efforts of Trainers, Organizers, Helpers, and Participants
- This took us on a long tour of the possible evaluation mechanisms for all these stakeholders
How do other organizations tackle this task?

Other groups attributing certifications for training and education outside ‘traditional’ university programs

On April 23, the SC reviewed the processes of other groups attributing certification for training and education. A brief summary is below:

1. IBSTPI: International board of standards for training, performance and instruction.
   - ibstpi has been working on standards for the part 30 years. They have 5 sets of ‘competencies’: (1) evaluators, (2) instructional design, (3) instructor, (4) online learner, (5) training manager
   - Patricia looked at one of their competency sets, the ‘instructor competencies’: there are 4 categories, and 17 competencies
   - Their set up is useful; however the information on their site is trademarked and we cannot use them without being a member of the organization (see http://ibstpi.org/purchase-personal-use-organizations/). Membership is about 1000 $ (very rough estimate, but in that order).

2. USDLA US distance learning association.
   The association runs a yearly conference and their site is mostly focused on encouraging people to attend their conference. They have 124 standards covering (1) Administration, leadership, and management, (2) Student affairs, (3) Teaching and learning, and (4) Learning infrastructure. Pedro contacted them to get some more information and they were not very responsive. It essentially seems like people can get certification from USDLA (http://209.151.89.205/usdla.org/public_html/cms/assets/pdf_files/Fall2013FlyerQualityStandardsCertification.pdf). We concluded that this did not meet our needs.

3. ISTE International Society for Technology in Education
   - Scope: From their website (http://www.iste.org/STANDARDS):
     The ISTE Standards are the standards for learning, teaching and leading in the digital age and are widely recognized and adopted worldwide. The family of ISTE Standards — ISTE Standards for Students (ISTE Standards•S), ISTE Standards for Teachers (ISTE Standards•T), ISTE Standards for Administrators (ISTE Standards•A), ISTE Standards for Coaches (ISTE Standards•C), and ISTE Standards for Computer Science Teachers (ISTE Standards•CSE) — work together to transform education.
   - Not restricted to distance learning
   - From what we can gather, we can use their criteria without becoming members.

4. Canadian Society for Training and Development (http://www.cstd.ca/) Michelle is going through the accreditation process and will let us know what she finds out when she attends the workshop.
Certifications: Executive summary

- This is no piece of pie!
- GOBLET does not have the resources to put in place anything as extensive as the resources described just now
- We need a simpler solution
Scope... some answers

- **Who and what:** At the GOBLET Operational Board Meeting (Tuesday April 29), it was made clear that the focus should be on trainers, the contents of their courses, and their ability to do evaluations.

- **How** is still an open question:
  - To be objective, one or more external persons should evaluate the course and the trainer
  - Ideally that evaluator would have seen other courses of the same type to be able to assess its quality
Building for our own resources

• Those of us involved in teaching and teaching assessment contributed the documents used to evaluate courses and trainers
• The next slides shows examples of these evaluation forms
Course assessments
## Course evaluation form

### General aspects of the course

*(General) The course was well organized*

- [ ] Not selected  
- [ ] Yes  
- [ ] Rather yes  
- [ ] Rather no  
- [ ] No  
- [ ] No opinion

*(The course was well structured)*

- [ ] Not selected  
- [ ] Yes  
- [ ] Rather yes  
- [ ] Rather no  
- [ ] No  
- [ ] No opinion

*(The exercises were useful and well integrated into the course)*

- [ ] Not selected  
- [ ] Yes  
- [ ] Rather yes  
- [ ] Rather no  
- [ ] No  
- [ ] No opinion

*(The balance between exercises and theory was good)*

- [ ] Not selected  
- [ ] Yes  
- [ ] Rather yes  
- [ ] Rather no  
- [ ] No  
- [ ] No opinion

*(The length of the course was suitable for the topics covered)*

- [ ] Not selected  
- [ ] Yes  
- [ ] Rather yes  
- [ ] Rather no  
- [ ] No  
- [ ] No opinion

*(The difficulty of the course was appropriate for my knowledge)*

- [ ] Not selected  
- [ ] Yes  
- [ ] Rather yes  
- [ ] Rather no  
- [ ] No  
- [ ] No opinion

*(I enjoyed the social activities (coffee breaks, dinner))*

- [ ] Not selected  
- [ ] Yes  
- [ ] Rather yes  
- [ ] Rather no  
- [ ] No  
- [ ] No opinion
(1) What were the strengths of this course?

(1) What aspects of this course should be improved?

(1) Do you have any additional comments or suggestion (e.g. a topic that you thought was

(1) What other courses would you like the SIB to organize?
Terri – Manchester University – student review of trainer

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Mostly Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Mostly Disagree</th>
<th>Disagree</th>
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<tr>
<td>Overall I would rate this unit as being excellent</td>
<td>✨</td>
<td></td>
<td></td>
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<tr>
<td>The feedback I received on my work was helpful</td>
<td>✧</td>
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<tr>
<td>The unit was well organised</td>
<td>✧</td>
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<tr>
<td>The material I studied was intellectually stimulating</td>
<td>✧</td>
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<tr>
<td>The facilities I needed for my work were available</td>
<td>✧</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>The unit aims and learning outcomes were achievable</td>
<td>✧</td>
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<tr>
<td>I have increased my understanding of the subject matter</td>
<td>✧</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>The material I studied was relevant to my degree programme</td>
<td>✧</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teresa Atwood was excellent</td>
<td>✧</td>
<td></td>
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</tr>
</tbody>
</table>

STUDENTS - PLEASE RECORD ANY ADDITIONAL COMMENTS YOU MAY HAVE IN THE BOX BELOW:


Trainer assessments

SIB, Manchester,
Teaching

(Name) The course was presented in an interesting way*

- Not selected  ○  Yes  ○  Rather yes  ○  Rather no  ○  No  ○  No opinion

() The teacher was competent*

- Not selected  ○  Yes  ○  Rather yes  ○  Rather no  ○  No  ○  No opinion

() The teacher's oral expression was good (clarity, volume, language, ...)*

- Not selected  ○  Yes  ○  Rather yes  ○  Rather no  ○  No  ○  No opinion

() The teacher was able to answer my questions*

- Not selected  ○  Yes  ○  Rather yes  ○  Rather no  ○  No  ○  No opinion

() The supplied documentation and references were useful*

- Not selected  ○  Yes  ○  Rather yes  ○  Rather no  ○  No  ○  No opinion

Global appreciation

(Global) I would recommend this course to others*

- Not selected  ○  Yes  ○  Rather yes  ○  Rather no  ○  No  ○  No opinion
A. Delivery
Audibility: could the reviewer hear the lecturer clearly (even at the back of the lecture theatre)?
Intelligibility: was the lecture readily understandable and pitched at the right level?
Preparation: was the lecturer well prepared?
Lively and stimulating: did the lecturer enthuse and stimulate his/her audience?
Audio-visual and other presentational aids: were these used appropriately?

B. Content
Learning objectives: were these clearly set out, and were they achieved by the end of the lecture?
Structuring: was the lecture appropriately structured?
Context: is the relationship of this lecture to the rest of the unit clear?
Response: how did the lecturer interact with his/her audience? Were the students challenged to engage with the lecture material (eg by answering specific questions/exercises)? How did the lecturer respond to feedback from the audience?

Online Blackboard materials (ask email Trudy Hoye (see below) for access to the unit): did these effectively support and enhance learning?

C. Recommendations
How could the lecture be improved? Agree some specific action points with the reviewee and enter them below.

Action Point - Action Required - Implementation Deadline (e.g. next lecture) (list)
Bruno – Peer observation of teaching UNSW Faculty of Engineering

- Clear, concise speech and explanation
- Clear use of presentation, visual aids and/or the board
- Showed enthusiasm for the subject area
- Showed importance of subject area, practical applications, etc.
- Kept class attention
- Asked students questions and/or involved students
- Structure of lecture – order of material, pacing etc
- What went well in the session?
- What, in your opinion, could be improved or developed? How might this be achieved?
- Other feedback (including areas specifically requested or noted in earlier observation)?
## Judit - KTP (Knowledge Transfer Programme) skills

<table>
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<th>Year</th>
<th>Level: Basic/Intermediate/Advance</th>
<th>Details: List</th>
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<tbody>
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<td>Administration and Management</td>
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<tr>
<td>Communication</td>
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<tr>
<td>Training</td>
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<td>....</td>
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<tr>
<td>Technical (Computer Science skills)</td>
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<tr>
<td>Programming</td>
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<tr>
<td>Databasing</td>
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<tr>
<td>System Administration</td>
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<tr>
<td>Software/Application Development</td>
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<tr>
<td>Statistics</td>
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<tr>
<td>Biology</td>
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<tr>
<td>Data Management</td>
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<tr>
<td>Standardization/Ontologies/Markup Languages</td>
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<tr>
<td>Cloud/Super computing/Grid</td>
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<tr>
<td>Semantics</td>
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<tr>
<td>Data Analysis</td>
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<tr>
<td>Web services and applications development (Web technologies)</td>
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<tr>
<td>Algorithm Development</td>
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<tr>
<td>Software/pipeline Development</td>
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</table>
### Domain Specific: Field (Biology/Bioinformatics skills)

<table>
<thead>
<tr>
<th>Domain Specific: Field (Biology/Bioinformatics skills)</th>
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<tbody>
<tr>
<td>Computational Genomics</td>
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<tr>
<td>Genome Annotation</td>
</tr>
<tr>
<td>Computational Proteomics</td>
</tr>
<tr>
<td>Chemoinformatics</td>
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<tr>
<td>System Biology and Networks</td>
</tr>
<tr>
<td>Meta Genomics</td>
</tr>
<tr>
<td>Computational Biology</td>
</tr>
<tr>
<td>Pharmacogenomics/Pharmacogenetics/Pharmacokinetics/Toxico Genomics</td>
</tr>
<tr>
<td>Medical Informatics</td>
</tr>
<tr>
<td>Clinical Informatics</td>
</tr>
<tr>
<td>Immuno Informatics</td>
</tr>
<tr>
<td>biostatistics &amp; biocomputing</td>
</tr>
<tr>
<td>Bioinformatics of Disease and Treatment</td>
</tr>
<tr>
<td>Population and Statistical Genetics</td>
</tr>
<tr>
<td>Bioimaging and signal processing</td>
</tr>
<tr>
<td>Computational molecular Biology</td>
</tr>
<tr>
<td>Computational Structural Biology</td>
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<tr>
<td>Pathogen informatics</td>
</tr>
<tr>
<td>Molecular Evolution</td>
</tr>
<tr>
<td>Transcriptomics</td>
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<tr>
<td>LIMS (Laboratory Information Management System)</td>
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<tr>
<td>Data management</td>
</tr>
<tr>
<td>Phylogenetics</td>
</tr>
<tr>
<td>Bioinformatics Standards and reporting</td>
</tr>
</tbody>
</table>

### Domain Specific: Disease

<table>
<thead>
<tr>
<th>Domain Specific: Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV</td>
</tr>
<tr>
<td>Tuberculosis</td>
</tr>
<tr>
<td>Malaria</td>
</tr>
<tr>
<td>Cancers/Oncology</td>
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<tr>
<td>Heart diseases</td>
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<tr>
<td>etc.</td>
</tr>
</tbody>
</table>
Skills matrix for trainers

Sarah

Communication skills
Verbal communication skills – able to deliver information orally in a clear manner that is understood by trainees.
Written communication skills – able to create written information e.g., tutorials and exercises at the correct level for trainees and at an appropriate level both for face-to-face situations and to enable self-study.
Presentation skills – able to create suitable slide-sheets for lecture-style sessions and to present complex information in an engaging and accessible manner.

Expertise and knowledge
Subject area knowledge – having appropriate and up-to-date knowledge / expertise in the subjects taught.
User application awareness – understanding how a trainee will apply the information: “How will this analysis benefit my work?”
Knowledge of training methodology – awareness of individual learning styles and basic pedagogy / andragogy.

Planning and Management
Session planning – able to define the requirements for a single session; able to plan appropriate activities based on objectives of session and time available.
Curriculum planning – able to organise a balanced programme clear understanding of target group and course outcomes appropriate mix of theory and practice.
Event management – “everything else”!
Appreciation of what’s needed to make trainees get the most out of the training: adequate breaks, networking opportunities, simple logistics... .

Trainee engagement
Flexibility in delivery – ability to adapt a session / course in real-time based on live feedback.
Empathy with trainees – recognising how trainees are engaging with the subject; drawing trainees into the learning opportunity presented.
Understanding / knowledge of trainees – understanding trainees’ differing requirements and coping with different learning speeds.
Summary – trainer evaluations

• Two main types:
  - review by peers
  - review by students
Proposal for credit to bioinformatics trainers

• How will GOBLET help give credit to trainers for development and delivery of bioinformatics training outside of the academic setting? What are the standards against which such credit will be evaluated?

• After looking at tools and resources available for evaluating trainers, the SC concluded that
  1. Evaluation is very complicated, and
  2. The fact that all trainers teach different courses to people with different skills in different areas make the establishment of objective criteria very difficult.
Ideas for simpler assessment

Patricia, Terri and Pascale – informal meeting June 2014

• Trainers should self assess
• We could provide functionality for trainees to assess trainers
• We could also provide a function for 'peer-assessments', if other trainers attend a course
• Then we could match the self-assessments with those from the trainees, and see what the correlation is
• A proposal is that those evaluations would be private (ie only accessible by the trainer and the person who have generated them), unless a trainer decides to make them public (the public/private status could be changed in the profile).
• Discussed at the August SC conference call; members present agreed that this was a good place to start
Implementation Plan

Outcome of the August SC conference call

1. Develop a standard assessment forms for trainees and courses, based on the forms collected from the participating members.
2. Develop functionality so that the GOBLET portal would allow trainers to provide list of competencies.
3. Generate 'best practices' documents for course descriptions to help understand trainee’s needs. Suggestion is to start from SASI.
4. Do a pilot study that test multiple assessment forms/methods.
Discussion of the proposal for credit to bioinformatics trainers

1. Does the implementation plan seem sound?
2. Are there items to modify?
3. How does the work of the SC overlap with that of other committees?
Discussion, continued

On the specific points of the implementation plan:

1. Develop a standard assessment forms for trainees and courses, based on the forms collected from the participating members.
   1.1. This could be the next task for the SC; does that sound like the correct priority to the executive committee?
   1.2. If anybody is interested in participating, please let us know.

2. Develop functionality so that the GOBLET portal would allow trainers to provide list of competencies.
   2.1. This should be a collaboration with the IT team.
   2.2. Could we get some of this task done here during the hackaton?

3. Generate 'best practices' documents for course descriptions to help understand trainee’s needs. Suggestion is to start from SASI.
   3.1. How should we go about establishing the collaboration with SASI on this? We would like input form Manny.
4. Do a pilot study that test multiple assessment forms/methods.

4.1. We need volunteers! This must be done in a real setting.

4.2. Volunteers should comment on how they might integrate these new forms within their already existing evaluation systems.
Responses to requests from the EC and other committees
Proposal for posting bioinformatics training materials on GOBLET website

• Those of us with materials have provided it to the LET committee
Requests from other committees

LET:
• Standards for training
• Standards for assessment of courses and lecturers

Response from SC
• Establishing these standards in a systematic and objective manner would require a lot of resources
• The Exec needs to decide whether this is a high priority, and if so, assign resources
Requests from other committees

Fundraising:

1. Any kind of short text explaining the achievements of the last year. Things that can be highlighted in a sponsorship request.

2. Names/institutions to whom we may ask for sponsorship (for instance. Name of Companies/ organisations / foundations / institutions, etc with a contact name and Email if possible.

3. Examples of grant proposals that you have submitted in the past which contain a large proportion of training (such as that one from Nicky/Welcome Trust).

Response from SC

1. To be discussed based on the work done during the AGM meeting; we could highlight the production/use of the skill matrix for trainers’ self evaluation.

2 & 3. Members of the SC should send any relevant information to the Fundraising committee.
thank you