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Evaluation Design

Evaluation Questions

The evaluation of the working group was both formative and summative in nature, in that the data collected from participants was intended to both gain feedback from participants about the quality of the current working group and also to inform future meetings. The evaluation framework was guided by Kirkpatrick’s Four Levels of Evaluation model for training and learning programs (Kirkpatrick, 1994¹). Several questions constituted the foundation for the evaluation:

1. Were participants satisfied with the working group overall?
2. Did the meeting meet participant expectations?
3. Do participants feel the working group made adequate progress toward its stated goals?
4. Do participants feel they gained knowledge about the main issues related to the research problem?
5. Do participants feel they gained a better understanding of the research across disciplines related to the working group’s research problem?
6. What impact do participants feel the working group will have on their future research?
7. Were participants satisfied with the accommodations offered by NIMBioS?
8. What changes in accommodations, group format, and/or content would participants like to see at future meetings?

Evaluation Procedures

An electronic survey aligned to the evaluation questions was designed by the NIMBioS Evaluation Coordinator with input from the NIMBioS Director and Deputy Director. The final instrument was hosted online via the University of Tennessee’s online survey host mrInterview. Links to the survey were sent to eight working group participants on December 8, 2010 (working group organizers and participants associated with NIMBioS were excluded from the evaluation). Reminder emails were sent to non-responding participants on December 15 and 18, 2010. By January 3, 2011, eight participants had given their feedback, for a response rate of 100%.

### Evaluation Data

#### Respondent Satisfaction

**Table 1. Respondent satisfaction with content and format of the working group**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel the working group was very productive.</td>
<td>38%</td>
<td>38%</td>
<td>25%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The working group met my expectations.</td>
<td>38%</td>
<td>38%</td>
<td>25%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The presenters were very knowledgeable about their topics.</td>
<td>17%</td>
<td>50%</td>
<td>33%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The presentations were useful.</td>
<td>67%</td>
<td>33%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The group discussions were useful.</td>
<td>50%</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>I would recommend participating in NIMBioS working groups to my colleagues</td>
<td>63%</td>
<td>25%</td>
<td>13%</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Table 2. Satisfaction with working group accommodations**

Please indicate your level of satisfaction with the working group accommodations:

<table>
<thead>
<tr>
<th>Comfort of the facility in which the working group took place</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Neutral</th>
<th>Dissatisfied</th>
<th>Strongly dissatisfied</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resources of the facility in which the working group took place</th>
<th>88%</th>
<th>13%</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Travel arranged by NIMBioS</th>
<th>88%</th>
<th>13%</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Housing arranged by NIMBioS</th>
<th>88%</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>13%</th>
</tr>
</thead>
</table>
Suggestions for NIMBioS to improve the resources and/or accommodations available to working group participants:

The internet connection was easy to lose for some reason, and printing could have been a little easier although the staff was very helpful in getting it to work.

Allow postdocs and students to participate.

None - although I was somewhat frustrated by the spotty wireless access

Despite direct flights that were available, I was booked with one stop and this flight got canceled. Consequently, what would have been less than a 2 hour flight turned into 15 hours of travel.

Views of Group Progress

Figure 1. Do you feel the working group made adequate progress, for its first meeting, toward finding a common language across disciplines in the research area?

![Pie chart showing 87% Yes and 13% No]

Comments about finding a common language:

Weisrock held the group to an agenda, and we made good progress.

We were sufficiently multidisciplinary; most of the empiricists were working on similar systems and/or similar questions.
Working Group Format and Content

**Figure 2. How do you feel about the format of the working group?**

- This was a very effective format for achieving our goals: 75%
- This was not a very effective format for achieving our goals: 25%

**Suggestions for improving group format:**

The working group format would have been more effective if there was more structure and organization. We had to make collective decisions on which questions to answer, how to break into groups, who would be in groups, etc. These decisions should be made ahead of time.

More of the participants could have stayed involved in the discussion and if the discussions could have been more structured.

**Figure 3. Do you feel the participating in the working group helped you understand the research happening in other disciplines in the group’s topic area?**

- Yes: 87%
- No: 13%
Comments about understanding research in other disciplines:

There were a lot of discussions about other topics. They took the form of long coffee breaks, after-hours discussions, etc. that were really useful. For me, one of the best discussions I had was with a NIMBioS postdoc, on a completely different topic, in the early evening. It was one of the most productive and interesting discussions I had, and it made me want to come back as a visitor.

The discussion with the statistical/mathematical members of the group was useful (although not all of them were particularly interactive). The biologist members could have been more informed as a whole (i.e., some of the members did not have a sufficient level of familiarity with the issues to advance the conversation much beyond what has been published, nor did they have ideas about how to deal with the challenges).

Table 3. Learning about issues related to the working group’s research problem

<table>
<thead>
<tr>
<th>As a result of participating in this working group, I have a better understanding of:</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The research data available on the working group’s topic</td>
<td>38%</td>
<td>25%</td>
<td>25%</td>
<td>-</td>
<td>13%</td>
</tr>
<tr>
<td>The modeling techniques available on the working group's topic</td>
<td>50%</td>
<td>38%</td>
<td>13%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>New methods and modeling techniques that need to be developed</td>
<td>38%</td>
<td>63%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The types of data needed to better inform existing models</td>
<td>38%</td>
<td>25%</td>
<td>38%</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Most Useful Aspects of the Meeting

Informal discussions.

Listening to other researchers from a variety of backgrounds.

Small group discussions on particular topics and meeting all of these new people from different areas.

The focused discussions on planned projects and the rambling discussions at lunch and evenings.

Informal conversations concerning topic of interest.
Talking with stat/math participants about existing methods and some of the limitations.

Group discussion with a variety of colleagues from different backgrounds.

I have a better understanding of the problem and challenges that we are facing.

Impact on Future Research Plans

Figure 4. Do you feel that the exchange of ideas that took place during the working group will influence your future research?

Comments about influence on future research:

I think it will help me focus my next generation sequencing in the right direction.

I'm not convinced that the direction of my research will change as a consequence of this meeting. That is not to say that I was not exposed to new ideas, but I'm not convinced that any of these demonstrated that my current direction is not a useful one.

The interactions with some of the statisticians were incredibly helpful.

Figure 5. Did you develop unanticipated plans for collaborative research with other working group participants?
Comments about plans for collaborative research:
But it may happen during the subsequent meetings.
I certainly met people that I hope to collaborate with.
Made plans to follow up on the work we discussed at the meeting.

Figure 6. Do you feel the expectations for the next working group are clear (in the sense that you are leaving this meeting with a good idea of what your contribution will be at the next meeting)?

Comments about understanding what is expected of working group members:
I have mixed feelings - is there a maybe button?
The reason I do not have a good idea of my contribution yet is because at this point there is no working model and being a mathematician I suppose that is where my contribution will be, i.e. analysis, identifiability etc.

Suggestions for Future Meetings
I’d like to see the group organizers be stricter about keeping us on topic.
The large group discussions were not productive, maybe because it was hard to bring the diverse backgrounds together on the same topic. Small group discussions seem to work better.
I would add more graduate students and postdocs.
I’m not sure that I agree with the goals of the working group leaders; I wish there was more opportunity for these goals to develop organically.
Composition of the biologist might have been chosen with more regards to those interested in contending with the methodological challenges. This could have improved the dialogue with the stat/math participants.
Additional Comments about working group

I thought that the informal nature and atmosphere were wonderful. When NIMBioS moves to new space, maintaining that would be great. I did feel that greater communication with the UT faculty, and more open events with them, would be really good.

It was a positive experience and actually exceeded my initial expectations given very little structure had been planned for the group.

I did not know what to expect with this open schedule, and felt it was very productive. NIMBioS was a great place for this, and it was great to be able to have both breakfast and lunch (as well as coffee and snacks) there. I think this really increased interaction between subgroups of participants and was very effective.
Appendix

Species Delimitation working group Evaluation Survey
Species Delimitation working group Survey

Thank you for taking a moment to complete this survey. Your responses will be used to improve the working groups hosted by the National Institute for Mathematical and Biological Synthesis. Information supplied on the survey will be confidential, and results will be reported only in the aggregate.

Please check the appropriate box to indicate your level of agreement with the following statements about this working group: (Very satisfied, Satisfied, Neutral, Dissatisfied, Very dissatisfied)

- I feel the working group was very productive.
- The working group met my expectations.
- The presenters were very knowledgeable about their topics.
- The presentations were useful.
- The group discussions were useful
- I would recommend participating in NIMBioS working groups to my colleagues.

Please check the appropriate box to indicate your level of agreement with the following statements.

As a result of participating in this working group, I have a better understanding of:
(Strongly agree, Agree, Neutral, Disagree, Strongly disagree)

- the research data available on the working group’s topic
- the modeling techniques available on the working group’s topic
- the types of data needed to better inform existing models
- new methods and modeling techniques that need to be developed

Do you feel the working group made adequate progress, for its first meeting, toward finding a common language across disciplines for analyzing complex evolutionary traits?

- Yes
- No
- Comments:

Do you feel the participating in the working group helped you understand the research happening in other disciplines in the group’s topic area?

- Yes
- No
- Comments:

Do you feel the expectations for the next working group are clear (in the sense that you are leaving this meeting with a good idea of what your contribution will be at the next meeting)?

- Yes
- No
- Comments:
Do you feel that the exchange of ideas that took place during the working group will initiate or influence your future research?
   Yes
   No
   Please explain:

Did you develop unanticipated plans for collaborative research with other working group participants?
   Yes
   No
   Please explain:

What do you feel was the most useful aspect of the working group?

What would you have changed about the working group?

How do you feel about the format of the working group?
   This was a very effective format for achieving our goals
   This was not a very effective format for achieving our goals ->
   The working group format would have been more effective if:

Please indicate your level of satisfaction with the working group accommodations:
(Very satisfied, Satisfied, Neutral, Dissatisfied, Very dissatisfied)
   Travel arranged by NIMBioS
   Housing arranged by NIMBioS
   Comfort of the facility in which the working group took place
   Resources of the facility in which the working group took place

Please indicate any changes NIMBioS can make to improve the resources and/or accommodations available to working group participants:

Please provide any additional comments about your overall experience with the working group: