

ILEAD U

A Project of the Illinois State Library

Cohort 1

2010 Evaluation Report

**Institute for Legal, Legislative, and Policy Studies and Survey Research Office
Center for State Policy and Leadership
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Summary

The first cohort for the Illinois State Library's ILEAD U program completed its training in October 2010. The eight multi-library teams constituting the cohort participated in three in-person training programs, designed to help each team acquire the skills and knowledge needed to complete a project using participatory technologies (Web 2.0) to meet an important community need. The Center for State Policy and Leadership at the University of Illinois Springfield (UIS) tracked the cohort throughout 2010, using interviews, surveys and observations to evaluate progress. Key findings from the evaluation can be summarized as follows:

- Large majorities of participants valued their ILEAD U experience, comparing it favorably to other learning experiences they have had, seeing it as one of the most useful experiences of their career, and finding it more challenging than expected. The highest value was reported by participants who, during their participation, were most likely to regard the goal of their team project as consequential for the people they serve.
- Participant learning by the end appeared to be strongest in those areas of in-person training content that teams actually used for their projects or that built more directly on the knowledge and experience of participants. Learning was notably weaker in those content areas – particular web content management programs – that were more technically difficult.
- The first kind of learning was stronger the higher participants' earlier ratings of the ability of their team. Learning of the more technically difficult material did not appear to be influenced by team functioning, but was associated with how high a priority a participant gave to their participation in ILEAD U early on, a sign of their commitment to what ILEAD U represents. Learning across all content areas seemed to be most affected by the strength of participants' general attitude toward learning.
- The first in-person program, in February 2010, received mixed ratings from both participants and Center observers. Participants indicated that, if they had expectations, the program generally met them, but complained about the lack of hands-on activities and time for team work. Observers judged the program to be strong in terms of instructor knowledge and organization of training content but much weaker in terms of participant engagement. This weakness was corrected in the second in-person program in June 2010, where observer ratings improved, on average, by about a third in all rating categories, and the participant engagement category showed the largest gains.
- By and large, teams appeared to function well under the circumstances of being temporary and made up of members who, for the most part, had very limited, if any, prior experience with one another. Most participants perceived their team as being cohesive and effective and providing a psychologically safe environment for sharing and exploration. There was less support for the view that teams were well structured (e.g., clear roles and responsibilities for members), and this lack of structure seemed to put more strain on communication and coordination efforts. A sizeable minority of participants also perceived differences among team members in how much they were able or could contribute to accomplishing their project. The reasons for these differences are not clear.
- From the perspective of participants, many teams started out in the spring of 2010 lacking as clear a direction as might be desired. Teams mostly seemed to overcome this early ambiguity, perhaps driven by the need to having something to show for their efforts by the time of the last in-person program in October 2010. However, by the end there were still a number of participants who, to varying degrees, seemed unsure about the goal their team had chosen.

- Findings suggest that teams functioned best if they initially used face-to-face meetings to get to know one another and set a direction. Resorting too quickly to electronic meetings seemed to forestall the development of relationships among the members. Electronic meetings did, however, appear to be an efficient way to get work done. Interestingly, email was the preferred mode of team communication for nearly all participants.
- Mustering the time for ILEAD was a challenge for half the participants. From early on, many participants indicated conflicts between their participation and the demands of their jobs. This did not necessarily translate into perceptions of a lack of support for their involvement from their libraries. Majorities of participants felt that they had good backing from their libraries, and the stronger these feelings the more time participants gave to ILEAD U, at least in the first few months when things were getting underway.
- Teams were assisted by a variety of supporting groups. Participants gave their team mentors and the ILEAD U instructor corps high marks across the board. Ratings were not as strong for the Center for Online Learning, Research, and Service at UIS, whose role was not clearly understood by many participants. Also getting relatively low marks were team user representatives, although here it was not the representatives themselves, but the teams who participants perceived as falling short. Participants made a number of suggestions on how to better utilize each of these groups.

Table of Contents

Summary	2
I. Introduction	5
II. Methods	5
III. Participant and Mentor Background Characteristics	7
A. Demographic Characteristics	7
B. Participants’ Perceptions of Their Group Skills, Current Jobs, and Learning Orientations	9
IV. Evidence of Learning	14
A. Web 2.0 Confidence at the Start	14
B. Web 2.0 Confidence at the End	15
C. Comparing Confidence at the Start and End	16
V. The In-Person Sessions	17
A. First In-Person Program, February 23-25, 2010	18
B. Second In-Person Program, June 15-17, 2010	20
C. Third In-Person Program, October 25-28, 2010	25
D. Participants’ Assessments of Instructors and COLRS	25
VI. Team Functioning	27
A. Teams in Process	27
1. Participants’ Roles	28
2. Team Direction	30
3. Communication and Coordination among Team Members	32
4. Communication Methods	34
5. Team Ability	36
6. Team Misunderstandings and Conflict	39
7. Team Factors	42
B. Teams at the End	42
1. Value of the Experience	43
2. Team Cohesion	44
3. Team Structure	44
4. Psychological Safety	45
5. Team Effectiveness	46
6. ILEAD U/Work Balance	46
7. Mentors and User Reps	47
8. Underlying Factors	48
VII. Influences on Learning	50
VIII. Participants’ Suggestions	52

I. Introduction

ILEAD U is a project of the Illinois State Library, supported by a grant from the federal Institute for Museum and Library Services. The purpose of ILEAD U is to train librarians in the use of participatory technologies, best known as Web 2.0, to improve the community relevance and effectiveness of their libraries.

In the model as currently designed, librarians participate in ILEAD U through teams composed of five members, only two of whom can be from the same library. Each multi-library team works on a project aimed at using participatory technologies to address a common need in the communities that team members serve. Each team also works with at least one representative from its community or communities to serve as a sounding board for the team's ideas. Teams are constituted for nine months, and during that time they participate in three in-person training programs where they learn about participatory technologies from expert instructors. Teams are also able to access the expertise of the staff at the Center for Online Learning, Research, and Service (COLRS) at the University of Illinois Springfield (UIS). In addition, each team is assigned a mentor, who is available to offer guidance and support as necessary or requested. The Institute for Legal, Legislative, and Policy Studies and Survey Research Office, both units of UIS' Center for State Policy and Leadership, are currently serving as ILEAD U's evaluator.

ILEAD U was piloted by the State Library in calendar 2010, with a first cohort consisting of eight five-member teams. There was some turnover in team membership during the cohort, but by and large the teams remained intact. Teams attended their first in-person program in February 2010, the second followed in June 2010, and a wrap-up in-person program occurred in October 2010. Teams met and interacted in other ways in between the in-person programs to work on their projects.

This report from the Center for State Policy and Leadership covers what happened to the first cohort of ILEAD U during 2010. Data for the report come from several sources. Before the February 2010 in-person program, all team participants (except one, who opted not to participate in the evaluation) and mentors were asked to complete a baseline survey. In May and June, Center staff conducted individual, semi-structured interviews with participants and mentors. In September, we administered a survey to participants and conducted a second round of semi-structured interviews with mentors. In November/December, after the cohort was completed, another survey was given to participants. These interviews and surveys covered much the same ground, although not always with the same questions. In addition to collecting data from participants and mentors, Center staff members attended and systematically observed all three in-person programs.

The real value of ILEAD U lies not in what librarians experienced during their participation in cohort one, but in what they do with that experience subsequently. The Center will be carrying out two follow-up surveys of participants in the spring and fall of calendar 2011 to learn more about how what was learned through ILEAD U is being applied to improve libraries around the state.

II. Methods

Because some who read this report may have limited knowledge of statistics, it may be helpful to explain the methods used to analyze the data we have collected on cohort one to date.

Most of the statistics we cite are basic descriptive ones. Frequencies, means or averages, and medians are the most common. Medians are used more than one might usually see in a program evaluation, and the reason for this is the small sample size. Cohort one consisted of only thirty-nine participants, and for many variables on which data were collected the number of responses was quite a bit less than this. Means or averages in a small sample can be deceiving, since all it takes is a few outliers to skew the result in one direction or the other. Medians are the mid-point in a distribution, where half of the sample is above and half below that point. In a small sample, the median can make for easier interpretation of the distribution of responses, since, unlike the mean, it is not influenced by outliers.

In addition to these basic descriptive techniques, more complex ones have been used to help analyze the data more deeply. These techniques have included simple correlation, factor analysis, and multiple regression. Simple correlation measures the closeness of the relationship between one variable and another variable. For example, is the age of ILEAD participants, reported at the start of cohort one, correlated with their judgments about the value of their participation in ILEAD nine months later? Correlations only measure whether the response patterns for two variables are similar. This is a statistical relationship, not necessarily a substantive one. Two variables may be correlated statistically in a sample – consider height and hair color – but that doesn't mean they necessarily are actually related to one another. In the report, we try use only those correlations where we think there is a reasonable explanation for the relationship.

Factor analysis is a method that, among other purposes, allows us to reduce the amount of data we have to work with. All three of the surveys administered to cohort one in 2010 included what are known as scales. A scale typically uses several items to measure one variable or concept. For instance, we might measure people's attitudes toward learning by asking them to agree/disagree with several statements that involve at least slightly different aspects of learning. These statements constitute a scale. Several scales were used in the surveys, together entailing literally scores of statements or items. Using every item on its own, that is, as a separate variable, would make the data analysis very burdensome and would quickly exhaust the ability of a small sample (40) to produce findings in which we can have a reasonable degree of confidence. Accordingly, we have used factor analysis, where possible, to reduce most of these items/statements into a smaller number of underlying constructs or factors. Factor analysis is complicated, but basically works by assigning items to factors based on the strength of their correlations with one another. We have relied exclusively on the factor analytic method known as principal components analysis, which is designed to make factors as distinct from one another as possible.

Lastly, multiple regression is a statistical way of looking at three or more variables together to see how they may be influencing one another. In the simplest form of what is called linear regression, one of the variables is deemed a dependent variable (typically based on theory, logic, or experience), and then the others are treated as independent variables that are presumed to independently affect the value of the dependent variable. The purpose of regression is to assign relative weights to the relationship between each independent variable and the dependent variable. In other words, the weight assigned to one independent variable takes the weight assigned to the other independents into account, so that one comes away with an idea of the relative influence of each independent variable on the dependent variable.

Because of the smallness of the sample, the regression analyses have been limited to no more than two to four independent variables at a time to keep the findings at least somewhat statistically interpretable. While this prevents us from drawing any big or hard conclusions, we think that the analyses we have

been able to perform still yield useful information. Also, the interpretability of linear regression results depends on the data meeting certain assumptions (e.g., they are normally distributed along a bell-shaped curve of their values). Owing to the small sample, we have not always been able to satisfy these conditions as fully as might be desired. Rather than toss the results from those analyses, we think that, even with their underlying statistical weaknesses, they are still worth reporting for the suggestive insights they entail.

III. Participant and Mentor Background Characteristics

The members of the eight ILEAD U teams in cohort one and their mentors were asked to complete a survey at the start of the program in January and February 2010. All but one of the 40 team participants and all eight mentors responded to this survey, which could be completed either by mail or through a web-based version.

The purpose of the survey was to obtain background information that could be useful in analyzing data which would later be collected on participants’ and mentors’ perceptions of their teams and what they were learning about Web 2.0 participatory technologies. The survey asked participants basic demographic questions as well as questions about their Web 2.0 skills, team skills, the nature of their jobs, and orientations toward learning and performance. The mentors were only asked the demographic questions to provide a basis for comparison with the participants.

A. Demographic Characteristics of Participants and Mentors

Cohort one participants, all but three of whom are women, were fairly evenly distributed across age categories. We asked about age on the hunch that younger librarians might be more savvy about and interested in Web 2.0 than older librarians. A slight majority of participants was under the age of 40, and a little more than half of this group (about a quarter of the total) was less than 30 years of age. Of those 40 years and older, all but three were under 60 years of age. Six out of the eight mentors were concentrated in the 30 to 49 age range, with one of the remaining mentors under 30 and the other over 49. No mentor was over 60 years of age.

Participants were asked how long they had been working as librarians, how long they had been with their current employer, and how long they had been in their current positions. These kinds of durations might be associated with changes in learning motivation. As people gain experience, they might be more readily able to absorb new information but feel less inclined to pursue it. Participants’ responses on the three duration questions are reported in Table 1.

Table 1: Participants’ Experience as Librarians

Years Worked as Librarian	Frequency	Valid Percent
2 or fewer years	10	26.3
3 to 6 years	10	26.3
7 to 15 years	9	23.7
16 or more years	9	23.7
Total	38	100.0

Years with Current Employer	Frequency	Valid Percent
1.50 or fewer years	9	23.1
2 to 3.50 years	11	28.2
4 to 7 years	9	23.1
8 or more years	10	25.6
Total	39	100.0
Years in Current Position		
Years in Current Position	Frequency	Valid Percent
1 year or less	14	35.9
1.50 to 3 years	12	30.8
4 or more years	13	33.3
Total	39	100.0

The median length of library experience for participants was six years, meaning that half of the participants had worked as librarians six years or less and half had worked longer than six years. The median time with one’s current employer was three and a half years, and the median time in one’s current position was two years. Again, these figures reflect a fairly even distribution of library experience. Participants were also queried on whether they have always worked as a librarian. Sixteen (41 percent) said they have. Mentors generally reported more experience as librarians (a median close to nine years), more years in their current jobs (a median of over five years), and more time in their current positions (a median of over three years). And they were less likely – two out of eight – to indicate having worked always as a librarian.

Participants were asked whether they supervise others. It was expected that librarians who supervise others might be more accustomed to exercising authority and bring that tendency to their teams. Roughly half the participants said they were supervisors, and the median number of employees they said they supervise was five. A greater proportion of the mentors – five out of the eight – reported supervising others, with a slightly higher median number of people supervised at six employees.

The survey included a question about the type of library at which participants work. We had no preconceived ideas about the meaning of this variable for the analyses and included it simply as a common way to describe the participants. Out of the 39 respondents, 27 reported working at a public library of some type, 5 said they work at an elementary or secondary school library, 21 indicated working at an academic library, 9 said they work in a specialty library, and 7 reported working in another kind of library (e.g., private law firm, corporation). About half the respondents selected more than one category for the type of library where they work. The comparable figures for mentors were: 5 at a public library, none at an elementary/secondary school library, 4 at an academic library, 1 at a specialty library, and 4 at another type of library. Similarly, some mentors selected more than one library type.

Since the ILEAD U model calls for participants to form interlibrary teams, it was deemed beneficial to get a measure of the extent to which team members were familiar with one another previously. Conceivably, teams made up of members who have more prior experience with each other might be able to get to work more quickly determining a goal and working toward it. Conversely, teams consisting mostly of “strangers” might need more time to get comfortable and develop trust.

The median length of time team members had known each other prior to ILEAD U was three-fourths of a year; so, relatively little. Indeed, eight participants said they had no previous experience with any of

their team members. On the other end of the spectrum, seven participants reported an average familiarity with their teammates of three or more years. Everyone else fell in between these two poles.

As it turns out, this last item – familiarity with other team members – was the only background variable that seemed to bear on team functioning.

B. Participants’ Perceptions of Their Group Skills, Current Jobs, and Learning Orientation

Because our general evaluation strategy is to see what happens to ILEAD U participants over time, it was important to measure at the outset personal attributes that we believed might influence their involvement in their teams as well as their learning about Web 2.0. There are many options in selecting variables that might affect how someone relates to a team and their ability and motivation to learn. Mindful of the fact that we would be collecting data from participants at several points in time during the nine months of cohort one, and thus, wanting to keep the burden on them to the minimum necessary, we chose in the initial survey to ask them a relatively small number of questions in four areas.

One question asked them to rate their abilities in teaching each of several participatory technologies associated with Web 2.0. Since this question is used to compare participants’ Web 2.0 confidence at the beginning of the cohort to their confidence at the end, we will put off discussion of their responses until the next section of the report. Another question asked them to indicate how much experience they have had with four generic tasks commonly associated with complex group or team work: developing new teams, negotiating formal agreements, resolving conflicts among stakeholders, and adopting techniques and practices developed by others. We also asked them to report their level of agreement with five statements about the interdependence/independence of their current job. Our surmise was that the nature and extent of their work dependency on others might affect how they would approach participation on their temporary ILEAD U team. Lastly, their attitude toward learning was measured using a common distinction in research between a mastery orientation (wanting to learn new material for its own sake) and a performance orientation (learning for the sake of anticipated external benefits).

Results for the group skills factor are reported in Table 2. For three of the items making up this factor – developing project teams, negotiating agreements, and resolving conflicts – between 40 and 50 percent of respondents indicated having more rather than less experience, roughly 25 to 30 percent said less rather than more experience, and the remaining responses were neither more nor less. For the fourth item – experience using tools developed by others – the percentage reporting more rather than less experience was notably higher at nearly 75 percent. A factor analysis of the four items indicated that they all appear to measure the same underlying construct, which we will refer to as “team skill” in the rest of this report.

Table 2: Participants’ Self-Ratings of Group Skills

Developing new project teams		
	Frequency	Percent
A Lot of Experience	8	20.5
2	3	7.7
3	8	20.5
Neutral	6	15.4

5	5	12.8
6	5	12.8
No Experience At All	4	10.3
Total	39	100.0
Negotiating formal agreements		
	Frequency	Percent
A Lot of Experience	3	7.7
2	8	20.5
3	8	20.5
Neutral	6	15.4
5	3	7.7
6	4	10.3
No Experience At All	7	17.9
Total	39	100.0
Resolving conflicts		
	Frequency	Percent
A Lot of Experience	5	12.8
2	6	15.4
3	6	15.4
Neutral	6	15.4
5	4	10.3
6	6	15.4
No Experience At All	6	15.4
Total	39	100.0
Adopting tools developed by others		
	Frequency	Percent
A Lot of Experience	9	23.1
2	13	33.3
3	7	17.9
Neutral	7	17.9
5	2	5.1
6	1	2.6
Total	39	100.0

Results for the job interdependence/independence factor are reported in Table 3. For three of the items making up this factor – my performance depends on accurate information from others, I am often asked for advice or information, and I work fairly independently – levels of agreement were consistently high, more than 80 percent in each case. Note that the first two of these items may have been interpreted by participants as different sides of the same coin: you give me information, I give you advice. A fourth item – to do my job I need to spend most of my time talking to other people – was agreed to by almost two-thirds of participants. And for the remaining item – I am able to plan without having to coordinate much with others – a little more than half of participants agreed. A factor analysis of these five items did not produce a coherent result, and so, we were unable to reduce them to a single factor for use in subsequent analysis.

Table 3: Participants' Self-Ratings of Job Interdependence/Independence

My performance dependent on information from others		
	Frequency	Percent
Strongly Agree	6	15.8
2	18	47.4
3	7	18.4
Neutral	5	13.2
5	1	2.6
6	1	2.6
Total	38	100.0
Able to plan without much coordination with others		
	Frequency	Percent
Strongly Agree	6	15.8
2	9	23.7
3	5	13.2
Neutral	5	13.2
5	7	18.4
6	3	7.9
Strongly Disagree	3	7.9
Total	38	100.0
To do my job need to spend most time talking to others		
	Frequency	Percent
Strongly Agree	4	10.5
2	12	31.6
3	9	23.7
Neutral	7	18.4
5	3	7.9
6	3	7.9
Total	38	100.0
I am frequently asked for information and advice		
	Frequency	Percent
Strongly Agree	22	57.9
2	13	34.2
3	2	5.3
Neutral	1	2.6
Total	38	100.0
I work fairly independently		
	Frequency	Percent
Strongly Agree	12	31.6
2	14	36.8
3	5	13.2
Neutral	4	10.5
5	1	2.6
6	2	5.3
Total	38	100.0

Table 4 shows how participants evaluated eight different statements pertaining to their attitudes toward learning and performance. For the most part, participants' responses revealed favorable views toward both learning (mastery) and performance, which is not unusual. In most cases, responses were concentrated on the "agree" side of the scale. There were two exceptions, however. Opinions about "it's better to stick with what works than risk failing," which expresses a negative judgment toward mastery, were more divided. Also, contrary to what might have been expected, there were fairly high levels of *disagreement* with the statement "I am not interested in impressing others with my performance," a negative measure of performance orientation.

Table 4: Participants' Learning and Performance Orientations

Important to extend range of my abilities (L)		
	Frequency	Percent
Strongly Agree	27	69.2
2	11	28.2
3	1	2.6
Total	39	100.0
Prefer to work on tasks that force me to learn new things (L)		
	Frequency	Percent
Strongly Agree	14	35.9
2	15	38.5
3	5	12.8
Neutral	4	10.3
5	1	2.6
Total	39	
It's better to stick with what works (L)		
	Frequency	Percent
2	1	2.6
3	3	7.7
Neutral	9	23.1
5	13	33.3
6	7	17.9
Strongly disagree	6	15.4
Total	39	100.0
Set challenging goals in learning situations (L)		
	Frequency	Percent
Strongly Agree	11	28.2
2	17	43.6
3	5	12.8
Neutral	6	15.4
Total	39	100.0
Others' opinions about how well I can do certain things are important (P)		
	Frequency	Percent
Strongly Agree	9	23.1

2	16	41.0
3	2	5.1
Neutral	9	23.1
5	1	2.6
6	2	5.1
Total	39	100.0
Value what others think of my performance (P)		
	Frequency	Percent
Strongly Agree	24	61.5
2	13	33.3
3	1	2.6
6	1	2.6
Total	39	100.0
Not interested in impressing others (P)		
	Frequency	Percent
Strongly agree	1	2.6
2	2	5.1
3	2	5.1
Neutral	6	15.4
5	10	25.6
6	15	38.5
Strongly disagree	3	7.7
Total	39	100.0
Like meeting others' expectations (P)		
	Frequency	Percent
Strongly Agree	25	64.1
2	11	28.2
Neutral	3	7.7
Total	39	100.0

A factor analysis of the eight items in this section of the survey produced a relatively neat division of the items into two factors. The four items intended to reflect a learning or mastery orientation did so in the analysis, and the same for the four items intended to reflect a performance orientation. (The items aligning with each factor are noted in Table 4 with an “L” or “P.”) These two factors, rather than the individual items constituting them, are used in later analyses in this report; learning orientation in particular appears to make a meaningful difference in what participants got out of ILEAD U.

To make the findings on performance and learning orientations more understandable, we calculated each participant’s average response to the four items comprising each factor and then converted the results across participants into simple categories showing strength of orientation. These are depicted in Table 5. The categories are not exactly equivalent between performance and learning. Learning orientations fall within a more restricted range on the strong end of the scale, while there is more variation among performance orientations leading to the need for a “weaker” category. The typical response among participants was a strong learning orientation coupled with a medium performance orientation.

Table 5: Performance and Learning Orientation Categories

Performance Orientation Categories		
	Frequency	Valid Percent
Strong Performance Orientation	14	35.9
Medium Performance Orientation	17	43.6
Weaker Performance Orientation	8	20.5
Total	39	100.0
Learning Orientation Categories		
	Frequency	Valid Percent
Very Strong Learning Orientation	13	33.3
Strong Learning Orientation	18	46.2
Medium Learning Orientation	8	20.5
Total	39	100.0

IV. Evidence of Learning

Because ILEAD U did not begin with a defined curriculum or specific learning objectives, it was not possible at the outset of cohort one to find out what participants already knew about the content that would be covered in the months ahead. Instead, the initial survey presented participants with a list of relatively well-known participatory technologies associated with Web 2.0 and asked them to indicate how confident they were in their ability to teach each technology to someone else. The list was mainly derived from a survey of librarians conducted by the Illinois State Library when preparing their application for the IMLS grant that funds ILEAD U. Immediately after cohort one ended in October 2010, we surveyed participants again and included in that survey a list of the technologies and other content topics actually covered during their training, none of which specifically overlap with the list in the initial survey. As with the initial survey, participants were asked to rate how confident they were in their ability to teach these topics to others. Asking participants to assess their confidence or certainty in their ability to teach, rather than just confidence in their ability, was intended to encourage them to think more clearly than they might otherwise about their real ability in each area. While the measures of confidence at the beginning and end are not, strictly speaking, comparable, they do afford a least a loose basis for tracking participants' progress.

A. Web 2.0 Confidence at the Start

Table 6 shows the results of how participants responded to the question on Web 2.0 confidence in the initial survey. As the table makes evident, there was notable variation in how participants evaluated their abilities at the beginning, although most of this occurs within the middle categories of the seven-point rating scale that we used (with 1 being very certain and 7 being not at all certain). There were some participatory technologies where levels of confidence were, on average, fairly high, such as instant messaging, photo sharing, and social networking. There were others where confidence levels were

relatively low, such as digital/audio podcasting, gaming, and tagging. Perhaps, the main message to be taken from these findings is that participants were generally indicating room for improvement in their Web 2.0 abilities.

Table 6: Initial Confidence in Teaching Participatory Technologies

Can you teach?	Very certain	2	3	4	5	6	Not at all certain
Blogging tools	28.9%	13.2%	7.9%	21.1%	2.6%	7.3%	17.1%
Digital/video podcasting	13.2%	5.3%	10.5%	10.5%	7.9%	21.1%	31.6%
Digital photography	20.5%	20.5%	23.1%	10.3%	12.8%	5.1%	7.7%
Gaming	10.3%	10.3%	15.4%	5.1%	15.4%	12.8%	30.8%
Instant Messaging	43.6%	7.7%	23.1%	5.1%	7.7%	5.1%	7.7%
Photo sharing sites	30.8%	23.1%	17.9%	7.7%	12.8%		7.7%
RSS feeds	23.1%	15.4%	12.8%	10.3%	7.7%	10.3%	20.5%
Social bookmarking	18.4%	18.4%	7.9%	10.5%	7.9%	15.8%	21.1%
Social networking	33.3%	23.1%	12.8%	7.7%	7.7%	10.3%	5.1%
Tagging (folksonomies)	12.8%	17.9%	7.7%	7.7%	12.8%	12.8%	28.2%
Videoconferencing	12.8%	12.8%	12.8%	15.4%	2.6%	15.4%	28.2%
Virtual reference	23.1%	12.8%	30.8%	7.7%	5.1%	7.7%	12.8%
Webconferencing	15.4%	17.9%	10.3%	10.3%	12.8%	10.3%	23.1%
Wikis	12.8%	15.4%	23.1%	12.8%	10.3%	7.7%	17.9%

B. Web 2.0 Confidence at the End

In the immediate post-cohort survey, participants were asked to respond to a list consisting of both the participatory technologies they were exposed to during their training and a set of management and leadership topics that were also addressed. While the management and leadership topics were presented during the in-person training programs within a Web 2.0 context, their content was more general and could be construed as useful apart from Web 2.0. Participants' confidence ratings on the items in this list are presented in Table 7.

Table 7: Final Confidence in Teaching Participatory Technologies

Can you teach?	Very certain	2	3	4	5	6	Not at all certain
Project management	21.9%	28.1%	18.8%	15.6%	3.1%	3.1%	9.4%
Community needs assessment	18.8%	25.0%	15.6%	25.0%	6.3%	6.3%	3.1%
Social media marketing	21.9%	34.4%	31.3%	3.1%	6.3%		3.1%
Project assessment	15.6%	18.8%	31.3%	15.6%	9.4%	9.4%	
Knowing your audiences	31.3%	12.5%	43.8%	6.3%	3.1%		3.1%
Connecting with community	28.1%	18.8%	18.8%	12.5%	6.3%	12.5%	3.1%
WordPress	18.8%	28.1%	18.8%	12.5%	3.1%	6.3%	12.5%
Screencasting	21.9%	34.4%	6.3%	18.8%	9.4%	3.1%	6.3%
Information Architecture	3.2%	19.4%	9.7%	32.3%	9.7%	9.7%	16.1%
Internet-based meeting systems	40.6%	25.0%	21.9%	3.1%	6.3%	3.1%	
Internet-based file sharing	40.6%	34.4%	12.5%	3.1%	9.4%		
Video production	28.1%	31.3%	18.8%	9.4%	6.3%	3.1%	3.1%
Drupal	3.1%	9.4%	6.3%	3.1%	9.4%	15.6%	53.1%

Plinkit	6.3%	3.1%	6.3%	18.8%	6.3%	18.8%	40.6%
LAMP		6.3%	3.1%	12.5%	12.5%	25.0%	40.6%
PHP		6.5%	3.2%	6.5%	12.9%	25.8%	45.2%
Digitization	15.6%	28.1%	21.9%	12.5%		3.1%	18.8%

As with confidence ratings at the beginning, there is variation in how people evaluated their confidence at the end, although it is less concentrated on the middle categories of the rating scale and there are some patterns in the ratings. Generally, participants expressed higher confidence in their abilities with respect to the management and leadership topics (items in bold print), although there were some clear, and we think explainable, exceptions. Notably, confidence was highest for internet-based meeting systems and file sharing, which we suspect was mainly due to the fact that these technologies were actively used by most of the eight project teams to conduct their business. Participants may have gained comfort with them due to repeated exposure. Confidence was also high for teaching screencasting and video production. This might stem, at least in part, from teams’ use of these technologies in developing the products for their projects. Thus, in all four of these cases – internet-based meetings and file sharing, screencasting, and video production – it seems likely that team use of the technology supplemented in-person training to boost confidence levels.

At the other end of the continuum, confidence was relatively low in the more specific Web 2.0 technologies, such as PHP, LAMP, Drupal, and Plinkit. These were technically more difficult content areas, and since they were mostly presented for the first time at the second in-person training session in June 2010, teams did not have much of an opportunity apply them to their projects.¹ There will be more to say about these content areas, as well as the other content areas on the survey list, in the report section on the in-person training sessions.

C. Comparing Confidence at the Start and End

Even though, as noted above, the Web 2.0 confidence ratings at the start and end are not strictly comparable, it is feasible and useful to convert them into roughly comparable categories as a way to gauge learning. Confidence or self-efficacy judgments, while not direct measures of what someone has learned, have been shown in research to be a reasonable, albeit still imprecise, indicator of learning. Although the confidence ratings measure different specific things at the beginning and end of cohort one, it is at least arguable that together they represent something more generic called Web 2.0 confidence.

To get to this generic measure, we calculated each participant’s average confidence rating across all technologies/topics for each point in time (start and end). The results for all participants were then used to identify broad categories of higher confidence, medium confidence, and lower confidence, and to assign each participant to the category in which their average confidence rating fell for each of the two surveys. We assigned approximately equal numbers of participants to each category for each survey. To assess learning or progress, we compared a participant’s confidence category at the beginning to their confidence category at the end.

¹ At the June 2010 in-person training session, participants were able to pick the topic sessions they attended, except for LAMP/PHP, which was presented to the cohort as a whole. One might normally expect confidence measured at the end to be higher for those who had attended a session than for those who did not. However, we found very little of this when we correlated confidence with session attendance. For only three sessions – project assessment, information architecture, and Drupal – did the correlations reach significance, but even for these three cases the strength of the relationship with confidence was relatively weak.

The comparison showed that for those participants who provided confidence ratings at both points in time (a total of 22), eight increased in confidence (they moved from a lower confidence category to a higher one), six did not change, and eight declined in confidence (they moved from a higher confidence category to a lower one). It should be emphasized that movements across categories were not particularly dramatic; in particular, there were no precipitous drops in confidence. Further, since the confidence ratings at the end included participants' evaluations of their abilities in areas which were technically difficult and of limited use in team projects (e.g., LAMP, PHP, Drupal), it is not surprising that the generic Web 2.0 confidence of some appeared to slide a bit.²

Confidence is only a proxy for learning. A better test of learning will occur in the next several months when we follow-up with cohort one participants to see how they are applying in their work and otherwise what they were exposed to through ILEAD U.

V. The In-Person Sessions

For cohort one, ILEAD organized and conducted three in-person training programs in Springfield for all participants and mentors during the nine months between February and October. Content for these sessions was developed and delivered primarily by the corps of instructors the State Library hired through a competitive application process prior to the beginning of the cohort. The instructors were in place by early December 2009 and had about two and a half months to plan the curriculum, focusing primarily on the content for the first in-person program at the end of February 2010. By design most of the training content was delivered at the in-person programs in February and June, with the final program in October used mainly to give the eight project teams an opportunity present their work.

Two methods were used to evaluate the in-person training programs. We had trained observers at all three programs, who used the same, designed protocol to evaluate each content session of each program. The design for this protocol drew from three sources: protocols that have been used to rate classroom instruction, lessons learned from research on what makes for effective training, and more basic findings from the science of learning about how adults learn. Observers rated each session on seventeen different criteria. For the first in-person program, at least two observers rated each of the sessions except for one, which was rated by only one observer. Because the second in-person program made extensive use of simultaneous break-out groups, we were limited to having only one observer at each session. Since training was not the principal focus of the third program, there was only one observer during that program.

In addition to guided observations of the in-person programs, participants and, to a lesser extent, mentors were asked for their evaluations of the training after the first and second programs. During one-on-one interviews with participants and mentors in the spring of 2010, we had each person compare each pair of sessions from the first in-person program in February and tell us which one they benefited from more. Participants were also asked how well this first program met their expectations and whether they had used what they learned at it. When participants were surveyed in September 2010, we included a section that asked them to indicate how much they had learned from each of the topics sessions at the June in-person program, how much their teams had used content from each of

² It is also possible that confidence ratings may have been inflated some at the beginning by participants wanting to make a favorable impression. This is known in research as "social desirability bias." This bias, which is common in surveys, may have been more muted at the end when participants' evaluations of their confidence may have been tethered to a more honest appraisal of what they had just experienced in ILEAD U (e.g., difficulty learning LAMP/PHP).

those sessions, and how much they had used that same content on their own apart from their teams. Although we did not have participants or mentors evaluate the content of the final in-person program in October, the immediate post-cohort survey in November-December 2010 included items that called for participants to assess the help they had received from instructors and COLRS. Though COLRS had limited involvement in the in-person programs, it was intended to serve a similar training role.

A. First In-Person Program, February 23-25, 2010

The initial in-person program covered several topics, some of which would reappear in later in-person programs. These topics included: project planning, identifying collaborative communities, community needs assessment, Plinkit (a website creation tool used by libraries), Drupal (a web-based content management system), Wordpress (a tool for creating websites and blogs), developing videos for web use, digital imagery, copyright, use of metadata, storytelling, and using Web Junction. In addition, there was a kick-off keynote address by the lead instructor, David Lankes of Syracuse University, which introduced participants to the idea of libraries being enablers and supporters of “community conversations.” The decisions about what content to offer were made by the instructors as a group, based on what they believed the eight teams would need to get started on their projects. Most of the specific topics presented were organized into multi-part training sessions led by two or more instructors working together, and all training was delivered to the participants as a whole.

As mentioned above, our observers rated each session on seventeen criteria. These criteria are reproduced in Table 8, with the average score that our observers gave for each criterion. The rating scale was from 1 to 7, with 1 indicating that a criterion was not true at all for the session and 7 indicating that it was very true for the session. For most criteria for most sessions at least two observer provided ratings; in many cases there were three. In one case we only had one observer, and in a few instances with more than one observer, an observer did not feel that he or she had enough information to make a rating.

Overall, our observers rated sessions as falling just below the mid-point of the 7-point scale. One session, review of team videos, was rated very highly. A few – the keynote, project planning, and storytelling – received relatively low scores based on the seventeen criteria as a whole. And then the rest were perceived as scoring just above or just below the mid-point.

Scores varied across criteria as well. Observers generally gave the highest scores on those criteria that represented instructors’ knowledge of their material, and the second highest on those pertaining to their organization of this material. Scores were almost consistently lower, however, on those criteria having to do with participant engagement. For example, except for one session, scores for “participant exploration precedes formal presentation” were all below the mid-point of the 7-point range, and in several cases were barely above the “not true at all” rating.

Table 8: Observer Ratings of First In-Person Program Training Sessions

	Keynote: Lankes	Project Planning, Collaboration, Needs Assessment	Plinkit	Drupal	WordPress	Shooting Vides	Review of Team Videos	Digital Imagery, Copyright, Metadata	Storytelling	WebJunction	Overall Average
Participant exploration precedes formal presentation	1.0	1.7	3.3	3.3	3.3	2.0	4.7	2.3	1.5	1.0	2.4
Conceptual, abstract thinking encouraged at right time	2.5	2.0	5.7	5.3	5.0	6.0	5.0	3.0	1.5	5.0	4.1
Knowledge and skills demonstrated before practice	2.0	1.3	5.3	4.0	4.7	3.0	5.0	1.3	1.5	6.0	3.4
Ample opportunity to practice	1.0	1.7	2.3	2.3	2.3	3.0	5.0	1.7	2.0	3.0	2.4
Practice opportunities involve authentic problems	1.0	1.3	5.5	2.3	2.3	3.0	5.0	1.7	2.0	1.0	2.5
Respect for participants' prior knowledge	3.0	3.0	2.3	5.5	5.5	5.0	6.5	3.5	3.0	5.0	4.2
Solid grasp of subject matter	6.5	1.7	6.3	6.3	6.0	6.0	7.0	6.7	4.0	7.0	5.8
Coherent conceptual understanding promoted	2.5	1.7	5.7	5.7	5.7	6.0	7.0	4.7	3.5	7.0	5.0
Concepts illustrated with clear, appropriate, real examples	4.0	2.3	6.0	6.3	5.7	6.0	7.0	4.7	3.5	5.0	5.1
Complex content divided into parts	2.5	2.3	5.7	5.7	5.7	6.0	5.0	4.3	3.5	6.0	4.7
Participants helped to see how parts fit together	3.5	2.3	6.0	6.0	5.7	6.0	7.0	3.7	2.5	4.0	4.7
Content gets more difficult during session	1.5	2.0	4.0	4.0	4.0	4.0	6.0	4.3	3.5	2.0	3.5
Each segment builds on previous one	6.0	3.0	5.0	5.0	5.0	3.0	7.0	5.0	4.0	6.0	4.9
Participant ideas give direction, focus to session	1.0	1.3	2.5	2.5	2.5	4.0	7.0	2.3	2.5	2.0	2.8
High proportion of participant talk	1.0	1.3	3.0	3.0	3.0	3.0	6.3	2.7	2.0	2.0	2.7
Instructors engage in extraneous content	2.0	4.0	3.0	3.0	3.0	2.0	4.3	5.0	5.5	3.0	3.5
Ample opportunity for participants to reflect	2.5	1.3	4.0	4.0	4.0	5.0	6.7	2.3	1.5	5.0	3.6
Overall Average	2.6	2.0	4.4	4.4	4.3	4.3	6.0	3.5	2.8	4.1	3.8

We hasten to add that just because a session scored low on many or most of our observation criteria does not mean that it lacked value for the participants. Participants may still have picked up bits and pieces of useful information they could use later or have been moved by something they heard. These possibilities seemed evident to some extent when we interviewed participants 2-3 months after the first in-person program.

In the interviews, we asked them if the first in-person program met their expectations. A majority (17 of the 29 who answered the question) said it did. The remaining 12 were either undecided or responded by indicating that they did not have any expectations going in. When we gave participants opportunities to make open-ended comments during the interviews, many indicated general satisfaction with the experience. Many also pointed to specific problems. And being satisfied and mentioning problems were not necessarily mutually exclusive. All in all, while there were some who were disappointed, it would be fair to say that most participants were not, at least not in a clear-cut way. On average, those who attended seemed to feel that they had gotten something out of the experience. At the same time, many would have preferred more hands-on training and less lecturing, and more time for work on their teams. These same sentiments were expressed by the mentors when we interviewed them.

In both sets of interviews, respondents were asked to evaluate how much they had benefited from the different sessions. This was done by having them compare each pair of sessions and say from which they benefited more. To keep this process as simple as possible, sessions were grouped under the heading they had on the in-person program agenda: project planning, identifying collaborative communities, and needs assessment; community portal (Plinkit, Drupal, WordPress); digitization (digital imagery, copyright, metadata, storytelling), and video shoots (shooting videos, review of team videos). The WebJunction session was excluded since it was not an official part of the curriculum, but something the State Library wanted done to help teams use WebJunction for communication purposes. Participants rated community portal highest, followed closely by video shoots and the keynote. Project planning and digitization were further behind in fourth and fifth place. The mentors' rankings were somewhat different, with video shoots and the keynote tied for first place, followed closely by community portal and more distantly by digitization and project planning.

In a broad sense, participants' and mentors' evaluations of the first in-person comport with our observer's ratings, with one exception: the keynote. While the keynote did not fare all that well on our observation criteria, it did appear to resonate with many participants and mentors. Our best guess is that people found inspiration in the keynote's articulation of higher aspirations for libraries and librarians.

B. Second In-Person Program, June 15-17, 2010

As alluded to previously, the second in-person program in June gave participants options of which training sessions to attend. Except for common training in LAMP and PHP, which are web content development and management programs, and a keynote address, participants were given two to three training options or breakout sessions to pick from during each time slot on the agenda. In total, there were eleven different training choices offered at least once, and three of these – social media marketing, connecting with user reps, and leadership, critical thinking, and transition strategies for projects – were offered twice to accommodate what was expected to be higher demand in those areas.

Table 9 reports the number of people who attended each of the training options. Attendance was recorded, because we assumed that exposure to an option might be related to later use and capability

with respect to its content. Unsurprisingly, the options that were offered more than once had the highest levels of attendance. However, attendance was also fairly strong for two of the topics offered only one time: screencasting and Drupal. All of the rest fell within a range of 13 to 7 attendees, with the exception of Plinkit, which had only 3 participants.

Table 9: Attendance at Second In-Person Program Sessions

	Frequency	Percent of All Participants
Connecting with Community	22	56.4%
Social Media Marketing	21	53.8%
Leadership, Critical Thinking, Transitions	20	51.3%
Screencasting	17	43.6%
Drupal	15	39.5%
Information Architecture	13	33.3%
Epic Success, Epic Fail	12	30.8%
Project Assessment	10	25.6%
Knowing Your Audiences	8	20.5%
WordPress	7	17.9%
Plinkit	3	7.7%

Observers were at all sessions – the common trainings, the keynote, and the breakouts, and they applied the same seventeen rating criteria that were used in evaluating the first in-person program. The results of their ratings are provided in Table 10. This time, instead of averaging scores across observers, there is only one observer rating for each session (except for the leadership session, where just by chance we had two observers).

The first thing to note about these ratings is how much better they are than observations of the first in-person program. The average overall score for a session in the first in-person program was 3.8 on our 7-point scale. In the second in-person, the score improved to 5.0, more than one rating category’s worth. And all seventeen criteria showed gains, except for one that did not appreciably change.

The improvements tended to be strongest for those criteria that involved participant engagement, the main deficiency of the first in-person program. The score on one of these criteria – practice with authentic problems – actually more than doubled. In many cases, the first in-person fell short by illustrating key points with problems that were not clearly relevant to librarians. Instructors corrected this in the second in-person. Conceivably related to this was the diminution between the first and second in-persons of the tendency for instructors to engage in extraneous content.

There were four sessions that received very high marks. These included the keynote address by Beck Tench, knowing your audiences, Plinkit (with its small attendance), and social media marketing. All of the remaining sessions, except for two, had average overall scores above the mid-point of the scale, indicating that criteria were more true rather than less true. The exceptions were LAMP/PHP and Drupal. Our observations indicated that the LAMP/PHP session (actually one session divided across three different time segments) and the Drupal session were technically complicated and, given that, tried perhaps to accomplish too much in the time available.

Table 10: Observer Ratings of Second In-Person Program Training Sessions

	LAMP/PHP	Screencasting	Project Assessment	Social Media Marketing	Keynote: Tench	Learning from Failed Projects	Information Architecture	Knowing Your Audiences	WordPress	Drupal	Plinkit	Leadership	Connecting with Community	Overall Average
Participant exploration precedes formal presentation	1.0	7.0	6.0	6.0	1.0	3.0	4.0	6.0	6.0	1.0	6.0	4.5	4.0	4.3
Conceptual, abstract thinking encouraged at right time	2.0	5.0	5.0	6.0	7.0	6.0	4.0	7.0	6.0	1.0	7.0	4.0	3.0	4.8
Knowledge and skills demonstrated before practice	3.0	2.0	6.0	6.0	7.0	4.0	3.0	7.0	5.0	1.0	7.0	3.5	6.0	4.7
Ample opportunity to practice	1.0	3.0	6.0	5.0		5.0	6.0	7.0	7.0	1.0	6.0	4.0	5.0	4.7
Practice opportunities involve authentic problems	1.0	3.0	6.0			7.0	7.0	7.0	1.0	6.0	6.0	5.0	7.0	5.1
Respect for participants' prior knowledge	1.0	4.0	6.0	6.0	7.0	7.0	7.0	7.0	6.0	1.0	7.0	5.5	4.0	5.3
Solid grasp of subject matter	5.0	7.0	6.0	7.0	7.0	6.0	4.0	7.0	6.0	7.0	7.0	4.5	7.0	6.2
Coherent conceptual understanding promoted	1.0	4.0	4.0	7.0	7.0	6.0	2.0	7.0	4.0	1.0	7.0	3.5	7.0	4.7
Concepts illustrated with clear, appropriate, real examples	2.0	4.0	6.0	7.0	7.0	7.0	4.0	7.0	6.0	4.0	7.0	3.5	7.0	5.5
Complex content divided into parts	2.0	4.0	5.0	7.0	7.0	4.0	6.0	7.0	6.0	2.0	7.0	4.5	7.0	5.3
Participants helped to see how parts fit together	5.0	6.0	5.0	7.0	7.0	6.0	6.0	7.0	6.0	2.0	7.0	3.0	7.0	5.7
Content gets more difficult during session	7.0	4.0	2.0	6.0		2.0	2.0	6.0	6.0	4.0	7.0	3.0	6.0	4.6
Each segment builds on previous one	2.0	6.0	6.0	7.0	7.0	7.0	6.0	7.0	6.0	6.0	7.0	5.0	7.0	6.1
Participant ideas give direction, focus to session	1.0	2.0	6.0	6.0		5.0	1.0	6.0	7.0	1.0	7.0	3.0	1.0	3.8
High proportion of participant talk	6.0	6.0	2.0	7.0		7.0	7.0	7.0	2.0	7.0	6.0	4.0	4.0	5.4
Instructors engage in extraneous content	4.0	5.0	2.0	1.0		1.0	7.0	1.0	1.0	3.0	1.0	3.5	3.0	2.7
Ample opportunity for participants to reflect	1.0	6.0	5.0	7.0	7.0	7.0	7.0	7.0	6.0	1.0	7.0	5.5	6.0	5.6
Overall Average	2.6	4.6	4.9	6.1	6.5	5.3	4.9	6.5	5.1	2.9	6.4	4.1	5.4	5.0

When participants and mentors were interviewed after the first in-person program, they were asked a general question about the benefit of the training. In the September survey of participants, we wanted to get a more nuanced picture of the value of the training they received at the second in-person program. This was done by asking them to rate each training session in three ways: by how they had learned from it, how much their team had used content from it in pursuing their goal, and how they had used this information for other purposes. We also interviewed mentors about the same time as the administration of the survey, and asked them how much their teams had used information from each session.

The results of participants’ responses to the three questions on learning, team use, and personal use of the training content delivered at the second in-person program are provided in Table 11. The numbers represent the median score on a 7-point scale, where 1 is “a lot” and 7 is “not at all.” So, lower scores should be interpreted as more favorable, and higher scores as less favorable. The scores have also been averaged to provide a summary measure of the success of the training on each of the three questions and an overall “value” measure for each of the sessions.

Table 11: Participant Assessments of Learning and Use of In-Person Training Content

	How much did you learn from this session?	How much has your project team used information from this session?	How much have you used information from this session for other purposes?	Overall Average
LAMP/PHP	3.0	6.0	7.0	5.3
Screencasting	2.0	3.5	5.0	3.5
Project Assessment	3.0	4.0	5.0	4.0
Social Media Marketing	3.0	4.0	3.5	3.5
Keynote: Beck Tench	1.0	3.0	2.0	2.0
Learning from Failed Projects	3.0	5.0	5.5	4.5
Information Architecture	3.0	4.0	5.0	4.0
Knowing Your Audiences	3.0	4.0	4.0	3.7
WordPress	2.0	1.0	3.0	2.0
Drupal	3.0	6.0	7.0	5.3
Plinkit	3.0	7.0	7.0	5.7
Leadership	3.0	4.0	5.5	4.2
Connecting with Community	3.0	4.0	4.0	3.7
Overall Average	2.7	4.3	4.9	3.9

In general, the scores are higher for reported learning than for either of the two uses. Learning, in this context, is a subjective judgment internal to a person’s mind. Thus, participants’ responses to the learning question should probably be regarded as only rough approximations of actual learning. Although the two use questions are also subjective, they are more grounded in respondents’ perceptions of actual behavior, and therefore, may be more accurate.

When we look at the scores for each session, some variations become evident. The keynote address by Beck Tench and the WordPress session stand out in participants’ assessments of the value of the second in-person program. But, we think they may do so for different reasons. Beck Tench’s presentation,

though not specific to Web 2.0, was highly motivational and seemed to help participants see the creative potential in their jobs. WordPress may also have been motivational, too, but more likely its value stemmed chiefly from its practical relevance, especially to team projects. The rest of the sessions, like these two, scored relatively well on learning. Where they differed was in perceptions of their usefulness. Screencasting landed just on the favorable side of the rating scale for team use, and several others were at the mid-point of the scale. Less rather than more team use was reported for LAMP/PHP, learning from failed projects, Drupal, and Plinkit. When we turn to other or personal use, social media marketing was viewed more rather than less favorably on this dimension, there were a few other sessions at the mid-point, and then several more were rated as not being used much or at all.

One might think that whether or not a participant had attended a session during the second in-person program would be related to how they later rated that session in terms of learning and team and personal use. However, we found virtually none of this. The only session where perceived learning by September was significantly correlated with having attended that session back in June was WordPress, and the relationship was negative. In other words, the people who attended this session were more likely to report less learning than the people who did not. This may be less paradoxical than it seems. Only seven people attended the WordPress session in June, while all participants were exposed to WordPress during the first in-person program in February. The question in the survey only asked about learning from the June session. There were no statistically significant relationships between attendance at a June session and perceived use of content from that session by teams. And, for only one session, Plinkit, was there an association between attendance and personal use.

It's important to keep in mind here that participants did not have to attend a session in order to derive value from it. Teams made more or less strategic decisions about who of their members would attend which sessions. Presumably, this was done with the expectation that what someone learned at a session would be brought back to the team, where both the team as a whole and its individual members could use it.

Mentors offered some further insight into team use of the training content when we interviewed them in September and October 2010. Their perceptions indicated a distinct usage pattern among teams. WordPress, knowing your audiences, and connecting with the community were being used at that point a lot to quite a bit by seven out of the eight teams, according to the mentors. The keynote by Beck Tench was at this use level for four of the teams, and social media marketing, information architecture, and Drupal were seen as being heavily used by two teams each (although not the same teams in each case). The WordPress/knowing your audiences/connecting with the community pattern might be thought of as the basic usage model for cohort one teams: a web development technology (i.e., WordPress) combined with guidance on what to do with it (i.e., knowing your audiences, connecting with the community).

In addition to looking for relationships between attendance at June in-person program sessions and later reports of learning and use, we wanted to see if learning and use of content from these sessions was associated with Web 2.0 confidence at the conclusion of the cohort. Testing this makes sense since confidence was measured at the end, mostly, by asking participants about their ability to teach others how to use the specific technologies and other ideas and methods taught during the June program.

The analysis revealed limited relationships. Learning of only one of the June program topics, LAMP, had a positive relationship with participants' later reported confidence in their ability to teach this topic to others. Team use of three topics was correlated with subsequent confidence in those areas: PHP,

Drupal, and connecting with the community. The latter two correlations, however, were fairly weak. For personal use, the data are slightly more encouraging. Personal use of content from five of the training sessions at the June in-person program was later positively associated with how confident participants said they were in those areas. These included LAMP, PHP, Drupal, WordPress, and connecting with the community. Note that four out of the five are specific content development/management technologies.

We are not sure what exactly to make of this, but a couple of possible explanations suggest themselves. One is that the technology sessions mainly involved assimilating specific codes, procedures, and rules. The other sessions were more conceptual and exploratory. It may have been easier for participants to envision how to teach someone else a set of codes, procedures, and rules than a set of ideas, in the same way, for example, that it is easier to show someone how to thread a needle than to think about all of the ways in which a needle can be used. Another possible explanation is that participants had more confidence to gain in the technology areas, which may have been new to many of them, than in the more conceptual material, which seemed to build more directly on their existing abilities and prior experiences.

C. Third In-Person Program, October 25-28, 2010

Observations of the third in-person program in October were necessarily limited because most of the time was allocated to presentations on the progress and results of team projects, feedback discussions about cohort one's ILEAD U experiences, and wrap-up activities. Technically, there was only one training component to the program, a session about online conversations by two of the instructors.

Our observer rated the online conversations session at the highest level on all but four of the seventeen criteria. Rather than go through all seventeen criteria here, we focus instead on two somewhat lower rated criteria, since they seem to reveal mostly consistent patterns across the three in-person programs.

The lowest rated criterion, at the mid-point of the 7-point scale, was "focus and direction of the training being determined by ideas originating with participants." This dimension also received among the lowest scores in our observations of the training at the first and second in-person programs. Research suggests that training of adults is more effective when it begins with their own experiences and ideas. When the content is perceived to arise or flow from that point, participants seems to absorb it more readily. The process takes time, however. And so, it can be difficult to pull off effectively in a training event, like ILEAD U, where single topic sessions were typically given an hour to an hour and a half.

Time constraints might also have been at work in another of the lower rated criteria (5 on the 7-point scale) both for the online conversations session at the third in-person program and for many sessions at the two previous in-person programs. Designing and delivering content so that it "gets more difficult during the training session" appeared to be a challenge for many instructors. Again, it can be difficult to cover a topic sufficiently in a relatively short period of time if it needs to follow a progression from simple to more complex. However, there were some notable exceptions to this in the second in-person program, indicating that progression is doable.

D. Participants' Assessments of Instructors and COLRS

Participants were asked in our immediate post-cohort survey in November-December 2010 for their opinions of the value of the instructor corps and COLRS. They were presented with a series of statements about each group and asked to indicate how much they agreed with each statement using a

7-point scale, with 1 being strongly agree and 7 being strongly disagree. Their median levels of agreement with the statements are reported in Table 12.

Table 12: Participants’ Ratings of Instructors and COLRS

INSTRUCTORS	Median Rating
Instructors as a group were outstanding	1.0
Some instructors were clearly better than others	2.0
Without the things we learned from one or more instructors, our team could not have made as much progress as it did	1.0
The topics covered by the instructors were exactly what our team needed	3.0
The quality of instruction we received could have been much better	5.0
The instructors provided training that was well aligned with the goal of our team	2.0
Overall Median Rating for Instructors	2.3
COLRS	
COLRS was not always available when we needed its assistance	5.0
The people with COLRS really knew what they were talking about	2.5
Our team took full advantage of the help available from COLRS	4.0
Without the help of COLRS, our team could not have made as much program as it did	4.5
Overall Median Rating for COLRS	4.0

The instructors received high marks almost across the board. Participants perceived the instructors overall as high quality and helpful. The only area of potential concern was the match between the topics instructors taught and teams’ needs, and even here the median score was more agreeable than disagreeable.

Participants’ perceptions of the value of COLRS were not as favorable, although this appears to have been as much a function of team behavior as of COLRS.’ Although about a fourth of participants indicated difficulty with COLRS’ availability (data not shown in Table 12), most did not. And most felt that COLRS’ staff were knowledgeable. There was noticeably less agreement with the view that teams took full advantage of the help available from COLRS, and perhaps, as a consequence of this, most participants felt their teams’ progress did not depend much on that help. In open-ended comments made by participants on this survey, several expressed confusion about COLRS role in team projects. Similar concerns were registered in the September survey and during our early interviews with participants, suggesting that COLRS role started out ambiguous and may not have clarified much over time.

VI. Team Functioning³

Team-based learning is an integral part of the ILEAD U design. In cohort one, each librarian was a member of a team consisting of librarians from three to five libraries who carried out a project using participatory technologies to address a common need in their communities. Librarians attended the in-person programs as members of their teams, participated in the training as team members, and in between in-person programs worked on their teams toward accomplishing their project goal. The assumption was and is that participatory technologies can be more effectively learned in a participatory context.

Because of the centrality of teams to ILEAD U, a large part of the evaluation was devoted to trying to understand how the eight teams of cohort one were organized and operated and with what effects. In our initial, semi-structured interviews with participants in the spring of 2010, most of the questions asked them about their teams. Based on what we learned from those interviews, the survey of participants in September 2010 asked more specific questions about team functioning, although within general categories that were essentially the same as those used in the interviews. The immediate post-cohort survey in November-December 2010 queried participants on what the experience with their teams had been like. Many of the questions used in the initial interviews and the two subsequent surveys were derived from items used in previous research on teams. In addition to the data collected from participants, each of the mentors was asked, during interviews with them in the spring and fall 2010, to comment on how their team was doing.

In reporting the findings on team functioning, we first focus on the results from the initial interviews in the spring and the survey in September, since these both addressed similar questions about team conditions. Thus, we are able to compare participants' perceptions of the operation of their teams early and with about two months remaining. Attention then turns to findings from the immediate post-cohort survey, after teams had wrapped up their ILEAD U business and participant responses might reasonably be construed as "outcomes" of earlier team functioning. In addition to reporting these outcomes, we make an effort to try to explain them using findings from all previous data collections.

A. Teams in Process

We interviewed participants in the spring of 2010 by phone to see how they perceived their teams to be doing early in the process, when work was getting organized. Our survey 3-4 months later (depending on when an interview occurred) was designed to obtain perceptions at a point when teams were well past the organizing stage and needing to figure out how to complete their projects, or get as far as possible, within the time remaining. The interviews posed several questions about different aspects of team design and functioning, and participants were allowed to answer as they saw fit. Their answers were later reviewed and converted into simple codes to indicate the types of responses participants made to each question. The survey presented similar kinds of questions but with fixed response options.

Though the questions were not identical, the interview and survey covered the same team dimensions. Questions in each case fell into the following categories: the participant's role on the team, team

³ We should note that with very few exceptions, participants' perceptions of team functioning and their own learning varied a lot among members of teams and not much between teams. We attribute this to the nature of the teams – consisting mostly of "strangers" – and the short amount of time in which members had to develop team identities. Because of little variation across teams, we have not used team as a variable in most of our analyses.

direction, communication and coordination among team members, communication methods used, team ability, and team misunderstandings and conflict.

1. Participants’ Roles

In the spring interviews, we asked participants a number of questions about the role they were, at that point, playing on their team and their motivations for participating in ILEAD U. The codes we developed to reflect their answers are shown in Table 13. It should be noted that participants’ responses varied in clarity, and we often had to make a best guess as to how to code a response. While we think we guessed correctly, it is important to keep in mind that these are still guesses and may, in consequence, be prone to some error.

Table 13: Participants’ Team Roles and Involvement Spring 2010

	Frequency	Percent
What is your role on the team?		
I have responsibility for a task	13	41.9%
We all have the same role	16	51.6%
I represent my library	2	6.5%
How was your team role determined?		
By my job position or expertise	15	57.7%
So that all members would be equal	6	23.1%
Still being determined	5	19.2%
How much time have you been giving to ILEAD?		
1 to 2 hours a week	13	44.8%
More than 2 hours but less than 4 hours a week	8	27.6%
More than 4 hours a week	8	27.6%
How much of a priority is ILEAD for you?		
High priority	9	29.0%
Medium priority	13	41.9%
Low priority	9	29.0%
How were you selected for your team?		
By a superior in my organization	16	51.6%
By invitation or recommendation	8	25.8%
Through my own initiative	7	22.6%
Will doing well in ILEAD pay off for you in your organization?		
Yes, for me personally	20	64.5%
Yes, for my library	7	22.6%
Maybe	3	9.7%
No	1	3.2%

Participants’ responses to our question about their team role revealed an interesting distinction in how teams were initially organizing themselves. About 42 percent of the participants said their role involved responsibility for a particular task or set of tasks. Responses indicated that these were usually tasks

participants had volunteered to do. In a follow up question about how roles were determined, answers suggested that much of this volunteering was based on a participants’ job position or presumed area of expertise. Another 52 percent of participants said that there were no specific roles on their team and that every member had the same role. We think that keeping roles undifferentiated early on reflected, probably more than anything else, teams’ uncertainty about what they were supposed to be doing. Additional support for this conclusion comes from the 20 percent of participants who said their role was still being determined.

Close to half of participants reported that they were giving one to two hours a week to ILEAD U. The rest of participants were divided equally between those giving more than 2 but less than 4 hours a week and those giving more than 4 hours a week. Even though these were just the initial time commitments of participants, they revealed an early indication of a fairly fixed pattern that prevailed throughout cohort one. How much time participants said they were giving was highly correlated with how much of a priority they said ILEAD U was for them. There was a high priority group who indicated that ILEAD U was equal or very close to equal to their other job responsibilities. Those who said it was a medium priority generally did so by expressing that ILEAD U was important but secondary to their other work. For the low priority group, ILEAD U was seen at this stage as having little consequence for them and posed challenges in balancing participation with their other job responsibilities.

We wanted to get a sense relatively early of how participants perceived their personal stake in ILEAD U, thinking that this might influence their investment of time and effort going forward. As can be seen in Table 13, nearly two-thirds of participants indicated that they expected their participation to benefit them personally in their organizations. Another group representing roughly a quarter of participants said that there would be benefits but more for their organization than for them personally. Only a small proportion was uncertain or negative about the potential benefits of participation.

In the September survey, we asked questions of participants about their involvement and the benefits of that involvement. The questioning about roles per se shifted from a specific focus on each participant’s role to their perceptions of how the team was handling roles and the division of work. We take up this second matter later. Here, Table 14 shows the results of participants’ responses to the survey items on involvement and benefits.

Table 14: Participants’ Perceptions of Involvement and Benefits September 2010

	< 1 hr/wk	1-2 hrs/wk	3-4 hrs/wk	> 4 hrs/wk			
How much time have you given ILEAD U since June (2010)?	5.9%	47.1%	38.2%	8.8%			
	Very Involved	2	3	4	5	6	Little Involved
How involved are you in work of ILEAD U project team?	38.2%	26.5%	17.6%	8.8%	2.9%	5.9%	
	High Priority	2	3	4	5	6	Low Priority
How much of a priority is ILEAD U for you?	5.9%	32.4%	26.5%	17.6%	8.8%	2.9%	5.9%
	A Lot	2	3	4	5	6	Not at All

To what extent have your other responsibilities conflicted with your involvement in ILEAD U?	20.6%	29.4%	23.5%	14.7%	11.8%		
How much has your library benefited so far from your involvement in ILEAd U?	12.1%	30.3%	18.2%	12.1%	9.1%	15.2%	3.0%
How much have you personally benefited so far from your involvement in ILEAD U?	45.5%	24.2%	12.1%	9.1%	3.0%	6.1%	

Overall, how much time participants reporting giving to ILEAD U did not change much from the spring, except for fewer people at the high end of time allocated. When we looked at individual responses to the question about time given (data not shown), there were six people who increased their time between the spring and the fall and seven who reduced their time. As a result of these shifts, time given in the spring and time given in the fall were not significantly correlated. Mentors provided some additional insight into time allocations during our fall interviews with them. Several noted that with the deadline, meaning the end of the first cohort, looming, teams were needing to press to get their projects completed and this was making it more difficult for some participants to work the necessary time into their schedules.

We asked participants how involved they were on their teams, assuming that this might capture something about the depth of their identification with ILEAD U apart from their time commitment. More than fourth fifths of participants said they were involved to very involved. When we asked about the priority they gave ILEAD U, there was a moderate drop-off from the relatively high involvement levels. Just under two-thirds indicated that ILEAD U was a higher rather than a lower priority for them. It made sense to hypothesize that participants’ involvement and priority judgments might be related to how much of a conflict they felt between their ILEAD U work and other job responsibilities. While we were not able to establish this relationship statistically, we did, nevertheless, find fairly high levels of felt conflict among participants. On a scale of 1 to 7, where 1 was a lot of conflict and 7 was no conflict, almost three-fourths of respondents gave a score of 3 or lower.

The survey also asked about benefits to both the participant personally and to the library where she or he worked. Perceptions of personal benefit were somewhat more favorable than perceptions of library benefit, although both were more positive than negative. These findings appear to be largely consistent with what participants told us about benefits in the spring interviews, as summarized above.

2. Team Direction

Questions about team goals and objectives were important to pose early on to participants, to get a sense of whether a clear and compelling direction was emerging. We then wanted, some months later and with the benefit of participants having had more experience, to have them tell us how well the direction the team had taken was working. While not identical, the questions at the two points in time covered the same basic ground.

Table 15 presents participants’ responses to our team direction questions during the spring interviews. At this early stage, participants were evenly divided on the question of whether their project team’s goal (i.e., in general what they wanted to accomplish) was clear or ambiguous. We did not specifically ask participants whether the goal was clear, but simply to describe it, and then we evaluated these descriptions for clarity. In our approach, a clear goal was one that identified a population or audience,

the need(s) of that group, and the action that would be taken to meet that need; and an ambiguous goal was one that was missing two or more of these elements.

Table 15: Participations’ Perceptions of Team Direction Spring 2010

	Frequency	Percent
Our project team goal is....		
Clear	16	51.6%
Ambiguous	15	48.4%
Our project objectives are....		
Enumerated	11	35.5%
Not enumerated yet	20	64.5%
When were team objectives determined?		
In preparing team’s application	6	20.0%
Since the 1st in-person program	22	73.3%
Not yet determined	2	6.7%
Are objectives understood by members?		
Yes	10	32.3%
Believe so	13	41.9%
Maybe	2	6.5%
No or unsure	6	19.4%

Not surprisingly, by May-June 2010 most participants did not perceive that their teams had explicitly broken the goal down into specific objectives. When we asked them about objectives, many responded by restating the goal, sometimes adding to this a rough identification of a few activities that might be undertaken to achieve it. What was missing in these responses was a logical ordering of what participants envisioned the work to be. Even though nearly two-thirds of participants did not enumerate objectives, this did not stop them from believing that at least some objectives had already been determined, particularly since the in-person program in February. That objectives were largely still a work in progress at this point is evident in the general uncertainty most of them expressed about how well their team’s objectives were understood by team members. It also comes through in our interviews with mentors in the spring. Mentors talked about their team as “having a 1,000 ideas,” “members having different objectives,” and “sometimes having trouble focusing.”

The September 2010 survey posed a number of questions about participants’ perceptions of the goal of their team. Participants were presented with a set of statements – some positive, some negative – and asked to indicate how much they agreed or disagreed with each on a scale of 1 to 7, with one being strongly agree and 7 being strongly disagree. The results from these questions (in percentage of participants selecting an option) appear in Table 16.

Table 16: Perceptions of Team Direction September 2010 (in percents)

	Strongly Agree	2	3	4	5	6	Strongly Disagree
What project team supposed to accomplish remains uncertain	2.9%	14.7%	8.8%	8.8%	14.7%	17.6%	32.4%

Team goal is so challenging that we have to stretch to accomplish it	5.9%	23.5%	23.5%	17.6%	5.9%	11.8%	11.8%
Team goal is not especially challenging; it is well within our reach	2.9%	5.9%	14.7%	23.5%	11.8%	29.4%	11.8%
Team goal does not make much of a difference to anybody outside the team	8.8%	5.9%	5.9%	14.7%	14.7%	20.6%	29.4%
Team has made more progress toward goal than expected	8.8%	20.6%	17.6%	14.7%	11.85	26.5%	
Team goal is specified so clearly that all members should know exactly what the team is trying to accomplish	32.4%	17.6%	20.6%	11.8%	5.9%	11.8%	
Team goal is of great consequence for those we serve	14.7%	29.4%	17.6%	17.6%	8.8%	8.8%	2.9%

The general picture painted by these findings is that with about two months remaining for cohort one, the team goal had solidified for most participants, and that goal was important to them. About two-thirds were not uncertain about the direction of their team, and even more than that indicated they and their team members knew what to do to achieve their goal. Also, roughly similar proportions of participants said their team goal was consequential and valuable to people other than themselves. Agreement was somewhat less strong on the effort believed necessary to achieve the team goal. Just around half of the participants indicated, in response to three different statements, that reaching their team goal was challenging and required a lot from them. In our fall 2010 interviews, mentors were less likely than they had been in the spring to say that their team was struggling with finding and sticking to a direction.

3. Communication and Coordination among Team Members

It was expected that communication and coordination among team members might be more than a little challenging. Teams consisted of people from different libraries, libraries were often not physically close to one another, and nine months – the lifetime of the cohort – was not very long for the purpose of developing a shared Web 2.0 product. Consequently, data collection from participants and mentors paid a lot of attention to communication and coordination. At each time point, we asked participants and mentors for their opinions on how team members stayed in touch and coordinated their efforts. Participants were also asked each time about the specific methods of communication their team was using.

Participants’ opinions about the state of communication and coordination on their teams at the time of the spring interviews are provided in Table 17. By and large, participants signaled that communication and coordination were in fairly good shape about three months into the process. And this was echoed in the comments we heard from mentors at the same time. Nearly all participants perceived that they and their team colleagues were communicating effectively and that work was being coordinated effectively. Participants observed that teams were mainly relying on real-time discussion and email (which, in a sense, can be a type of discussion) to coordinate work. A few noted along these lines the important role being played by the team mentor in making sure members were connecting.

Table 17: Participants' Opinions about Team Communication Spring 2010

	Frequency	Percent
How effectively do members communicate?		
Effectively	13	41.9%
Fairly effectively	16	51.6%
Not that effectively	2	6.5%
How effectively does the team coordinate its work?		
Effective	20	64.5%
Fairly Effective	9	29.0%
Not that effective	2	6.5%
How is the work of the team coordinated?		
Through discussion	14	46.7%
By the use of deadlines	2	6.7%
Through the use of email	6	20.0%
Through the use of file sharing	3	10.0%
With the help of the mentor	3	10.0%
Through WebJunction	2	6.7%
How would the team operate if it were less virtual?		
Better	6	25.0%
Not better	15	62.5%
No difference	3	12.5%
Would it be easier to achieve the team goal if all members were co-located?		
Yes	13	41.9%
No	15	48.4%
Unsure	3	9.7%
How much experience did you have before ILEAD U working virtually?		
A lot	16	51.6%
Not much	15	48.4%

Since physical distance and the other time commitments of participants made it necessary for most teams to rely quite a bit on virtual communication and coordination, we asked them about this virtual aspect of their work. Most participants did not think being less virtual would be better, and often the reason was that it would make getting work done more time-consuming. We asked participants to speculate on whether being co-located with their colleagues would make team goal achievement easier, and a little less than half said yes, but even more said no. We thought that more prior experience working virtually would make participants more favorable toward the virtual dimension of their ILEAD U teamwork. Although about half of participants reporting having a lot of this experience pre-ILEAD U and half not much, this was unrelated to how they answered the questions about working virtually on their teams.

In the fall survey, we asked participants to indicate how effective communication has been among the members of their team, how much they have learned about working virtually, and how much they agreed or disagreed with some statements about team communication and coordination. Table 18 shows how participants responded to these questions.

Table 18: Participants’ Opinions about Team Communication September 2010

	Very effective	2	3	4	5	6	Not Effective
How effective has communication been among members of the team?	41.2%	29.4%	11.8%	11.8%		2.9%	2.9%
	A Lot	2	3	4	5	6	A Little
How much has the team learned about working virtually?	33.3%	27.3%	24.2%	6.1%	9.1%		
	Strongly Agree	2	3	4	5	6	Strongly Disagree
Reaching the team goal requires a great deal of communication and coordination	52.9%	26.5%	8.8%	5.9%	2.9%	2.9%	
Members of the team actively share their special knowledge and expertise	47.1%	17.6%	17.6%	14.7%		2.9%	
Members of the team have to depend heavily on one another to get work done	21.2%	39.4%	9.1%	18.2%	6.1%	6.1%	
Every member of the team has a clear understanding of her/his role	14.7%	35.3%	17.6%	17.6%	5.9%	2.9%	5.9%

Nearly nine out of ten participants indicated that communication on their teams has been effective, and the numbers were even slightly better for how much they thought their team has learned about working virtually. Also, nearly everyone agreed that achieving the team goal required a lot of communication and coordination. Participants generally held a favorable view of the willingness of their team members to share knowledge and expertise. The perceived extent of interdependence among members was not as strong as these other indicators, although still mostly positive. Similarly, the degree of agreement about role clarity, an important effect of communication and coordination, presented a slightly more mixed picture, but still more favorable than unfavorable.

4. Communication Methods

In the spring interviews, participants were asked how often their team used various communication methods and which of these methods was most helpful and least helpful. The fall survey posed similar questions, although this time with rating scales for participants to complete instead of providing verbal statements needing to be coded. The results for how often these methods were used are provided in Table 19.

Table 19: Frequency of Use of Communication Methods

How often does your team use....	Spring 2010			Fall 2010						
	Often to some	Not often	Rarely or Not at All	Very Often	2	3	4	5	6	Not at All
Email	77.4%	22.6%		85.3%	8.8%	5.9%				
Phone calls	53.3%		46.7%	9.1%	18.2%	6.1%	3.0%	18.2%	27.3%	18.2%
Teleconferencing	10.0%	30.0%	60.0%	17.6	14.7%	5.9		8.8		52.9
Voicemail	3.3%	16.7%	80.0%	6.1%		6.1%		12.1%	15.2%	60.6%
Fax		13.3%	86.7%							
Videoconferencing		13.3%	86.7%	6.1%	6.1%	6.1%		6.1%	6.1%	69.7%
Electronic meetings	48.4%	29.0%	22.6%	32.4%	32.4%	2.9%		2.9%	8.8%	20.6%
File sharing	43.3%	40.0%	16.7%	35.3%	23.5%	14.7%	5.9%		5.9%	14.7%

Before discussing the table, we first consider the use of face-to-face communication, since we approached the questioning on this method differently. In the spring, participants were asked how much of the work of their team was being done face-to-face. About 40 percent of participants said a lot of team communication was face-to-face, and the remaining 60 percent said not much. In the fall, instead of measuring the proportion of communication occurring face-to-face, participants were asked to indicate how often the meetings of their team have been face-to-face, the implied contrast being with videoconferencing, teleconferencing, and electronic meeting systems. On a 7-point scale, with 1 being nearly always and 7 being not at all, nearly two-thirds gave a score below the mid-point of the scale, meaning that face-to-face meetings were more common rather than less common.

Though face-to-face communication appears to have been used fairly often for meetings, especially in the home stretch when teams may have been pushing to complete their projects, much of the overall communication within teams was borne by other methods. At both points in time, email dominated all other means of communication. Electronic meetings and file sharing were also used relatively often, and the use of both seemed to increase between the spring and fall. Interestingly, more than half the participants indicated frequent reliance on phone calls in the spring, but use of the phone appeared to have dropped quite a bit by the fall. There was very slight use of faxing and videoconferencing early on, which led us to omit faxing from the fall survey.

In the spring interview, consistent with the usage data, participants indicated that email and electronic meetings (in particular, Adobe Connect) were the most helpful methods of communication for their teams. However, when we asked them which method was the least helpful, email was selected by a third of the participants, the largest number of “votes” for any method. Phone calls came in second, with a slightly less than a fifth of participants choosing this method as least helpful.

The fall survey asked participants to use a 1-to-7 scale to indicate the helpfulness of each means of communication. The results are presented in Table 20. Note that for some methods many participants indicated that the method did not apply to (i.e., was not used by) their team.

Table 20: Helpfulness of Communication Methods September 2010

How helpful has each of the following communication methods been?	Fall 2010						
	Very Helpful	2	3	4	5	6	Does Not Apply
Face-to-face	81.3%	12.5		6.3			2
Email	93.9%		6.1%				
Phone calls	33.3%	29.6%	18.5	11.1%		7.4%	7
Teleconferencing	57.1	14.3%	7.1	14.3		7.1	20
Voicemail	18.8%	6.3%	12.5%	25.0%	6.3%	18.8%	18
Videoconferencing	50.0%	16.7%		16.7%	16.7%		27
Electronic meetings	60.0%	12.0%	20.0%	4.0%		4.0%	8
File sharing	58.6%	13.8%	17.2%	10.3%			5

The one pattern which stands out is that, except for voicemail, majorities found all methods more helpful rather than less helpful. The most helpful were face-to-face and email, despite the fact that in the spring many had said face-to-face was time-consuming and inconvenient and a plurality of participants had named email as the least helpful form of communication (data not shown). In addition, for three of the methods of communication – email, electronic meetings, and file sharing – ratings of their helpfulness were strongly associated with how often they were used.⁴

Before leaving the topic of communication, it may be worth acknowledging an additional finding about electronic meetings. Frequency of use of electronic meetings seemed to be the main reference point when participants responded to the question on how much their team has learned about working virtually. The statistical correlation between the two is strong and significant, and no other means of communication was associated with perceptions of virtual learning.

5. Team Ability

Team ability has to do with the skills and talents of team members and the resources available to them in accomplishing their goal. Spring interviews asked participants a number of questions about team leadership and decision making, the availability of knowledge and information, and the possession of skills both on and outside the team. The fall survey asked participants about leadership and decision making and to indicate their level of agreement with several statements about team skills, learning behaviors, and access to needed knowledge. Interview results are reported in Table 21, and survey results in Table 22.

Table 21: Participants’ Perceptions of Team Ability Spring 2010

	Frequency	Percent
Does the team have a designated leader?		
Yes	19	61.3%
No	12	38.7%

⁴ Recall that for face-to-face communication we asked how often participants met in this way, not how often face-to-face communication was used to conduct the business of the team. Thus, while frequency of face-to-face meetings was not associated with ratings of the helpfulness of this type of communication, we cannot say that this would still be the case if our question had been the frequency of face-to-face communication in general.

ILEAD U Cohort 1 2010 Evaluation

How effective is the leadership of the team?		
Effective	23	76.7%
Fairly Effective	7	23.3%
How does the team make decisions?		
Discussion	15	37.5%
Majority rule	4	13.8%
Consensus	10	34.5%
How effective is team decision making?		
Effective	16	53.3%
Somewhat effective	12	40.0%
Not that effective	2	6.7%
Are the knowledge and information available to the team adequate?		
Yes	22	75.9%
Unsure	7	24.1%
Does the team have the skills needed to reach its goal?		
Yes	17	54.8%
No	14	45.2%

Table 22: Participants' Perceptions of Team Ability September 2010

	Frequency	Percentage					
Does the team have a leader?							
Yes	19	55.9%					
No	15	44.1%					
	Very Effective	2	3	4	5	6	Not Effective
How effective has this leader been?	42.1%	42.1%	5.3%			10.5%	
How effective has team decision making been?	29.4%	35.3%	14.7%	5.9%	5.9%	5.9%	2.9%
	Strongly Agree	2	3	4	5	6	Strongly Disagree
Members of the team have more than enough talent and experience for the goal we are trying to accomplish	60.6%	12.1%	9.1%	9.1%	6.1%	3.0%	
Team does not have a broad enough range of experiences and perspectives to accomplish its goal	3.0%			12.1%	15.2%	30.3%	39.4%
Everyone on the team had the special skills needed for what we are trying to accomplish	21.2%	33.3%	18.2%	12.1%	6.1%	9.1%	

Team has nearly ideal mix of members	27.3%	30.3%	15.2%	9.1%	3.0%	6.1%	9.1%
Some team members lack the knowledge and skills that they need to do their parts	3.0%	6.1%	18.2%	12.1%	3.0%	30.3%	27.3%
Members of team often speak up to test assumptions	39.4%	21.2%	24.2%	6.1%	9.1%		
Team often seeks new information that leads to making important changes	34.4%	34.4%	18.8%	6.3%	6.3%		
Team is skilled at capturing the lessons that can be learned from our work experience	36.4%	30.3%	18.2%	9.1%	3.0%	3.0%	
Team often comes up with innovative ways of proceeding	27.3%	27.3%	15.2%	18.2%	6.1%	3.0%	3.0%
Team has a great deal of difficulty carrying out its plans	3.0%	12.1%	9.1%	15.2%	15.2%	21.2%	24.2%
Information and knowledge available to the team in pursuing its goal have been more than adequate	18.2%	21.2%	21.2%	9.1%	18.2%	3.0%	9.1%

As shown in the first question in both tables, the same number of participants said their team had a leader at each time point. In other words, perceptions of the existence of leadership did not, in the aggregate, change over time. Perhaps more interesting here is that members of the same team, each time, disagreed on whether the team had a leader or not (data not shown). Indeed, on only three teams did all the members agree on this question. While there are no data to confirm this, we suspect the ambiguity about leadership stemmed, in part, from teams composed of representatives from different libraries not wanting any one library to be seen as officially in charge and from participants' confidence that team goals could be accomplished through the collective leadership of the members, a belief that seemed to form early on the teams that adhered to it.

Despite the lack of clarity about the existence of a leader, participants in the spring interviews by and large perceived their team leadership to be effective. We take this to mean not always just the leadership of a particular individual, but also of the team as a whole. In the fall survey, we restricted the question of effectiveness to those who indicated there was a designated team leader. This leader was found to be effective by 90 percent of those responding.

Team decision making was viewed as effective or somewhat effective by nearly all participants in the spring interviews. It may be a little difficult to square this with what we reported earlier about the ambiguity some teams were experiencing around their goal and objectives at that point. After all, if decision making was effective, wouldn't that show up in a clear goal and related objectives? Our best guess is that participants interpreted the question about decision making more in terms of the process of making decisions than in terms of the decisions it produced. This fits, in a way, with what they told us about how decisions were getting made, that is, mainly through discussion and consensus. As one participant put it, "the decision making process [because it relies on discussion and consensus] takes time, but it is effective."

By the fall, participants were still much more likely to view team decision making as effective than as ineffective, although their opinions did not appear to be as consistently strong as in the spring. It seems reasonable to assume that teams by now had reached a kind of “moment of truth,” when getting decisions made and things done were probably more important to them than the process of deciding. Yet, it can be difficult for a group to overcome its initial routines and preferences – for example, a slow consensus-driven process – in order to pick up the pace as the deadline nears. We see an intimation of this in the comment from a mentor we interviewed in the fall: “Decision making on the team has been slow. They discussed options but couldn’t decide until they either ran out of time or tired of the conversation.”

Positive assessments of team skills, learning behavior, and access to information in the fall survey were relatively high across the board, exceeding 60 percent in every case. Clear and often large majorities agreed with those statements that they should have agreed with and disagreed with those they should have disagreed with, if they saw their team as capable. However, the strength of these opinions did vary, and those variations may reveal something useful about participants’ assessments of the competence of their team.

In three out of the five items pertaining to skills on the team, notable minorities gave opinions that expressed reservations to a greater or lesser degree. Almost 40 percent of participants were either neutral toward or agreed with the statement that not all members of the team have the skills needed. And more than a fourth of participants were either neutral about or disagreed that everyone on the team has the special skills needed to accomplish the goal and that the team has a nearly ideal mix of members. Though one would like to see better scores on these items, the findings are not especially surprising. As shown earlier, Web 2.0 confidence varied widely among participants at the start. Perhaps more importantly, teams were not necessarily composed of members with the skills and experiences required to meet the specific goal and objectives they eventually settled on.

In the learning behavior area, 40 percent of participants were either neutral toward or agreed with the statement that the team has a great deal of difficulty carrying out its plans, and about 30 percent were neutral toward or disagreed with the statement about the team coming up with innovative ways to proceed. Conceivably, these attitudes reflected a problem some participants perceived in trying to complete a complex, interlibrary project within a relatively short period of time. An added factor here may have been a sense that the information and knowledge needed for the team project was not fully adequate. More than a fourth of participants were either neutral or disagreed with the statement about information and knowledge adequacy, and scores on this item were correlated with the scores on difficulty carrying out plans and use of innovative ways.

6. Team Misunderstandings and Conflict

It is not unusual for work or project groups to experience misunderstandings and conflict. One might expect such troubles to be more likely when team members are not familiar with one another or at all. Both the spring interview and the fall survey included items that addressed relationship issues on teams.

Table 23 shows how participants responded in the spring interview to our questions about team misunderstandings and conflicts. When we asked participants what misunderstandings happen on their team, four out of five said either there have been no misunderstandings so far or they were unsure whether any have occurred. The remaining fifth of respondents identified communication problems as the source of misunderstandings, and this appeared mostly due to teams made up of people unfamiliar

with one another trying to figure out how to work together. The lack of misunderstandings seemed contradicted by participants' answers to our follow-up questions about how misunderstandings occur and how they are handled. In these cases, many more of them were able to describe one or more causes for misunderstandings on the team, including both communication difficulties and differences in the perspectives of members, and more also discussed how misunderstandings are dealt with, mainly through group discussion. A possible explanation for the apparent contradiction is that participants regarded the first question as asking essentially whether the team was currently troubled, and they assumed that what they saw as slight misunderstandings did not rise to that level of seriousness. Lastly, about a third of the participants indicated the presence of conflicting priorities on their team.

Table 23: Participants' Perceptions of Team Conflict and Misunderstandings Spring 2010

	Frequency	Percent
What kinds of misunderstandings arise on your team?		
Communication problems	6	20.0%
No misunderstandings have occurred	13	43.3%
Unsure	11	36.7%
How do misunderstandings occur?		
Confusion at outset	2	11.8%
Communication breakdowns	6	35.3%
Different perspectives	5	29.4%
Wrong method of communication	4	23.5%
How are misunderstandings handled?		
With help of mentor	3	17.6%
Through team discussion	13	76.5%
Are there conflicting priorities on the team?		
Yes	11	35.5%
No	20	64.5%

The fall survey asked participants questions about how they thought their team was getting along. The results are shown in Table 24. There are a couple of interesting patterns that, at first glance, like the spring interview findings, seem to contradict each other. On the one hand, more than three-fourths of participants indicated that members are not too different from one another to work together effectively and that the team handles misunderstandings well. On the other hand, more than half the participants agreed that conflicting priorities exist on the team, and then about 40 percent agreed that who a member is rather than what they know determines how seriously they are taken and that differences of opinion among members tended to be handled in ways other than by the team.

Table 24: Participants' Perceptions of Team Conflict September 2010

	Strongly Agree	2	3	4	5	6	Strongly Disagree
Members of team are too dissimilar to work together well	3.0%	9.1%	9.1%	3.0%	18.2%	27.3%	30.3%
The team has been very effective handling misunderstandings	24.2%	42.4%	12.1%	12.1%	6.2%	3.0%	
Conflicting priorities exist on the team	15.2%	21.2%	15.2%	15.2%	3.0%	18.2%	12.1%
How seriously members' ideas are taken by others on the team often depends more on who the person is than on how much she or he actually knows	3.0%	27.3%	9.1%	12.1%	3.0%	9.1%	36.4%
The team tends to handle differences of opinion privately or offline, rather than addressing them directly as a group	9.1%	15.2%	15.2%	21.2%	9.1%	12.1%	18.2%

It is not entirely clear why participants responded in both ways, but it may have something to do with two important aspects of the teams. One is their temporary nature, and the other, as already mentioned several times, is the lack of familiarity among members. Essentially, participants may have reasoned that, by and large, their team was at this point in time (fall 2010) doing relatively well “under the circumstances.” As mostly strangers, they were getting along and handling difficulties well enough to believe that they were basically on target with their project, which would be over in a couple of months. This did not necessarily mean that the team was free of conflict or that status distinctions did not exist among members or that healthy norms for resolving differences had firmly taken root.

The potential for conflicting priorities was built in by creating teams consisting of representatives from different libraries, often in different communities, trying to derive equal value from the same project. Status distinctions might arise based on perceived differences among members in their commitment to ILEAD U, freedom to work on ILEAD U, current job title or experience, age, and so on. Healthy conflict resolution norms might not readily emerge because conflict was perceived as unpleasant, and so tended to get sublimated, and then there was not enough time in a short-term group to get comfortable dealing with the problem more transparently.

7. Team Factors

A factor analysis was performed using all of the team items from the fall survey.⁵ The purpose of this analysis was to see if underlying participants' responses was a set of simpler constructs representing their understanding of team functioning. We could then use these constructs or factors to conduct further analysis that might explain better how participants perceived their team. Even though the team items for the survey were developed based on the categories used above to organize our findings, we did not know how close these categories would come to reflecting participants' actual perspectives. As it turns out, they are a close but not a precise match.

The factor analysis yielded four factors entailing most, but not all, of the team items in the survey. One factor, with the largest number of items, captured team ability, but in a somewhat broader way than our original category. This broader factor encompassed team ability as we defined it above plus some aspects of communication and conflict. A second factor included most of the team direction or goal items in the survey. A third factor reflected other aspects of conflict. And a fourth dealt with the coordination items in our communication and coordination category. Regression analyses were done in an effort to identify other variables in the fall survey and from earlier data collections that might have contributed to scores on each of these four factors.

Learning variables seemed to be the strongest contributors to scores on the team ability factor, which logically makes sense. Participants' ratings of how much they learned overall from the second in-person program in June, their reported personal use of that learning, and their Web 2.0 confidence at the beginning each were positively associated with judgments of team ability in the fall. Scores on the team goal factor appeared to be most affected by variables that reflected commitment to ILEAD U (e.g., priority, level of involvement).

The team conflict factor was related both to the use of electronic meetings early on and to how much participants in the fall said their library has benefited from their participation, although in opposite directions. Participants' reports in the spring on the frequency of electronic meetings was positively associated with their perceptions of team conflict three to four months later. It is possible that early resort to electronic meetings, perhaps as a substitute for face-to-face exchange, interfered with the establishment of social ties among team members. By contrast, perceptions of team conflict appear to have been moderated by the amount of benefit participants said their libraries had derived from their involvement in ILEAD U. One way to interpret this is that if a participant felt the goal and plans of the team were well aligned with the needs of her or his library, then conflict was less likely.

Lastly, only one variable appeared to influence scores on the team coordination factor. How long team members had known each other was positively associated with perceptions that coordination was not that much of a challenge. Participants more familiar with their teammates may not have felt the strain of coordinating project work as much as those who were less familiar.

B. Teams at the End

The immediate post-cohort survey in November/December 2010 asked participant questions about what they thought of their ILEAD U experience, of the cohesion, structure, psychological safety, and

⁵ Data from the spring interviews involving the coding of verbal responses from participants did not lend itself readily to factor analysis.

effectiveness of their team, and of their ability to balance ILEAD U with their other work. The survey also solicited ratings of the helpfulness of mentors, instructors, user representatives, and COLRS.

1. Value of the Experience

In a variety of ways, participants were asked how much they valued or benefited from participation in ILEAD U. The results are reported in Table 25. While the ratings on all of the items were considerably more positive than negative, four items in particular stand out on this score, with 75 percent or more agreement: ability to help one’s library adapt to technological change as the most important benefit; the comparison of ILEAD U to other learning experiences; the usefulness of ILEAD U; and ILEAD U being more challenging than expected. The first three of these were highly correlated with one another. However, the last – challenge – was not related to any of these or to any of the other items in the value of experience category. It was, though, negatively associated with another survey item on whether a participant felt ILEAD U involvement competed with their other work, and positively associated with how much time a participant said he or she was giving to ILEAD U. Possibly, perceptions of ILEAD U being more challenging than expected was another way for participants to register their behavioral commitment to the effort, while other value of experience items said more about participants’ affective commitment.

Table 25: Participants’ Perception of the Value of ILEAD U November/December 2010

	Strongly Agree	2	3	4	5	6	Strongly Disagree
I did not get as much out of ILEAD U as I thought I would at the beginning		12.5%	15.6%	6.3%	15.6%	25.0%	25.0%
My participation in ILEAD U is more beneficial to me personally than professionally	3.1%	6.3%	12.5%	37.5%	18.8%	12.5%	9.4%
The most important benefit of my participation are the relationships I've developed with the other librarians on my team	28.1%	15.6%	18.8%	18.8%	9.4%	9.4%	
The most important benefit of my participation is the increased ability I now have to help my library adapt to technological change	37.5%	15.6%	28.1%	18.8%			
ILEAD U has been one of the most enjoyable experiences of my career	34.4%	18.8%	12.5%	12.5%	6.3%	12.5%	3.1%
ILEAD U has been one of the most useful experiences of my career	28.1%	18.8%	28.1%	18.8%	3.1%	3.1%	
ILEAD has been more challenging for me than I expected	28.1%	28.1%	18.8%	3.1%	9.4%	12.5%	

Compared to other learning experiences I have had, ILEAD U ranks among the best	37.5%	25.0%	21.9%	3.1%	9.4%	3.1%	
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Only one value item drew notable negative or neutral ratings – benefiting more personally than professionally from the experience. Because the ratings here are more neutral than negative, they may reflect participant’s uncertainty about the opportunity they will have to apply in their work what they learned through ILEAD U.

2. Team Cohesion

Research indicates that team cohesion – how well the members of a team get along – can be an important contributor to team success. Interpersonal problems use up time and effort that then are unavailable for team tasks. The concluding survey addressed cohesion by asking questions about the attractiveness, fairness, and unity of the team. Results are provided in Table 26.

Table 26: Participants’ Perceptions of Team Cohesion November/December 2010

	Strongly Agree	2	3	4	5	6	Strongly Disagree
Our team did not give me enough opportunities to contribute	6.3%	3.1%	6.3%	6.3%	6.3%	25.0%	46.9%
I would have chosen a different team goal	9.7%	6.5%	9.7%	12.9%	6.5%	29.0%	25.8%
Our team as united in trying to reach its goal	34.4%	18.8%	18.8%	9.4%	12.5%	3.1%	3.1%
I liked working together with this team	40.6%	25.0%	9.4%	9.4%	3.1%	6.3%	6.3%

Across all four items the results show high levels of team cohesion. Most participants found their team to be fair (i.e., enough opportunities to contribute), likeable, and united in its efforts. A majority also did not disagree with the team goal, although here a sizeable minority – close to 40 percent – of participants were either neutral or agreed that they would have opted for a different goal. Support for choosing a different goal was negatively associated with liking the team and being united, and positively associated, although not strongly, with a feeling of not being given enough opportunities to contribute. This would seem to suggest that if a team was able to get solid agreement on a goal, cohesion was more readily achieved.

3. Team Structure

The structure of a team can matter, often a lot, to its ability to get work done. Table 27 shows how respondents addressed the items about team structure in the survey. The first thing to note about these findings is that the percentages of participants agreeing with the statements on roles, goals and priorities, and work scheduling were only bare majorities, noticeably lower than the levels of agreement

in the two previous categories. By contrast, agreement with the statement about keeping one another up to date was exceptionally high, nearly 90 percent. The upshot seems to be that it was relatively difficult for teams, under the circumstances of a short timeframe and working across libraries, to develop tight structures and they compensated for this by putting more effort into active coordination of their work.

Table 27: Participations’ Perceptions of Team Structure November/December 2010

	Strongly Agree	2	3	4	5	6	Strongly Disagree
Our individual roles on the team were very clear	12.5%	25.0%	18.8%	15.6%	15.6%	12.5%	
Members of the team worked very hard to keep one another up to date on their activities	28.1%	40.6%	18.8%	3.1%	3.1%		6.3%
The goals and priorities of our team were clearly understood from early on	28.1%	15.6%	15.6%	6.3%	12.5%	12.5%	9.4%
Our team followed a very structured work schedule	9.4%	21.9%	18.8%	12.5%	12.5%	21.9%	3.1%

4. Psychological Safety

Psychological safety measures how free people feel in a group to express themselves and test out new ideas. It has been shown in research to affect learning. Consequently, we included a few items in the November/December survey to get a reading of individual participants’ perceptions of how psychologically safe they felt on their team. Their responses are included in Table 28.

Table 28: Participants’ Perceptions of Psychological Safety November/December 2010

	Strongly Agree	2	3	4	5	6	Strongly Disagree
I felt like other members of the team would judge me on the things that I said		9.4%	6.3%	15.6%	9.4%	15.6%	43.8%
It was easy to ask the other members of the team for help	50.0%	28.1%	9.4%	6.3%	3.1%	3.1%	
I felt like team members would think more positively of me when I agreed with them	12.5%	9.4%	12.5%	12.5%	12.5%	9.4%	31.3%

As can be seen, the responses present a mixed picture. More than two thirds disagreed that they had been judged on the things they said, and nearly 90 percent agreed that it was easy to ask for help from other members. However, perceptions of feeling pressure to agree with teammates were much more varied. Nearly half of the participants either indicated that they felt this pressure or were neutral about

its presence. Again, the limited amount of time for team members to work together may have contributed to these feelings.

5. Team Effectiveness

The spring interview and fall survey asked participants to rate a number of items regarding adequacy of the ability and process of their team. The final survey posed items that called for more summative judgments about team effectiveness. The results are recorded in Table 29. The data seem to indicate that given the limits teams worked under, they were, in general, judged by their members to be more effective than ineffective. There was strong agreement with the statement about success in maintaining high standards. A slight majority of participants agreed that the team was one of the most effective they have ever been involved with. Opinions were more varied about whether teammates made equal contributions. The same proportions of participants agreed and disagreed with this statement. This may simply be a byproduct of tasks getting divided up among team members and some tasks requiring more effort than others. It could also be that some members, perhaps because of time or skill limits, were not able to devote as much effort as others were.

Table 29: Participants’ Perceptions of Team Effectiveness November/December 2010

	Strongly Agree	2	3	4	5	6	Strongly Disagree
This was one of the most effective teams on which I have ever worked	12.5%	25.0%	18.8%	9.4%	18.8%	9.4%	6.3%
The team did not maintain a high standard of work at all times		6.3%	6.3%	6.3%	9.4%	46.9%	25.0%
Everyone on the team put in the same effort toward accomplishing our goal	18.8%	9.4%	15.6%	12.5%	9.4%	9.4%	25.0%

6. ILEAD U/Work Balance

Since participants had to work ILEAD U into their existing lives, we wanted to know what it had been like for participants to balance ILEAD U with their other work responsibilities. The final survey got at this by soliciting participants’ perceptions of how well their library had supported their involvement, since, at least for many of them, this could exert a controlling influence on their ability to strike a good balance. Table 30 shows the results for these items.

Table 30: Participants’ Perceptions of ILEAD U/Work Balance November/December 2010

	Strongly Agree	2	3	4	5	6	Strongly Disagree
My library gave me all the time I needed to participate in ILEAD U	50.0%	18.8%	6.3%	9.4%	9.4%		6.3%
My supervisor or other superior asked me to participate in ILEAD U	53.1%	6.3%	3.1%	3.1%		9.4%	25.0%

ILEAD U Cohort 1 2010 Evaluation

I never felt that my participation in ILEAD U got in the way of my other work	12.5%	15.6%	21.9%	12.5%	23.0%	3.1%	9.4%
My participation in ILEAD U was well-known to my co-workers at the library where I work	40.6%	25.0%	15.6%	9.4%	6.3%	3.1%	
Not everyone in the library where I work was supportive of my participation in ILEAD U	9.4%	15.6%	9.4%	9.4%	9.4%	12.5%	34.4%
My participation in ILEAD U mattered more to me than to the library where I work	31.3%	15.6%	9.4%	12.5%	9.4%	3.1%	18.8%

The general impression from these findings is that most participants felt adequately supported by their library. Three-fourths agreed that they had been given the time needed, nearly two-thirds agreed that a superior had asked them to participate, and four out of five indicated that their co-workers were aware of their involvement. Though feeling generally supported, participants also expressed some reservations. Just as in the earlier fall survey, about half the participants gave ratings that suggested some conflict between ILEAD U and their other work. Close to half expressed doubts about how much their co-workers were supportive of their participation. And more than half agreed with the statement that their participation mattered more to them than to their library. These last two items – lack of support from some co-workers and to whom participation mattered more – were correlated, suggesting that for a subset of participants there was uncertainty about the commitment of their libraries to what ILEAD U represents.

7. Mentors and User Reps

Since the survey results for instructors and COLRS were previously discussed in the section on the in-person programs for cohort one, we will limit our observations here to the survey findings on mentors and user representations. These are presented in Table 31.

Table 31: Participants’ Ratings of Mentors and User Representatives November/December 2010

Mentors	Strongly Agree	2	3	4	5	6	Strongly Disagree
Our team could not have gotten as far as it did without the help of our mentor	31.3%	34.4%	12.5%	3.1%			18.8%
Our mentor was always available when needed	50.0%	37.5%			3.1%	3.1%	6.3%
The quality of advice we received from our mentor was uneven	9.7%	6.5%	3.2%	12.9%	6.5%	16.1%	45.2%

Our mentor always knew what to do when our team had problems	37.5%	21.9%	18.8%	6.3%	9.4%	3.1%	3.1%
User Reps							
Our team's user rep/s were involved from the start	9.4%	15.6%	6.3%	15.6%	12.5%	21.9%	18.8%
We did not always make good use of our team's user rep/s	34.4%	34.4%	15.6%	3.1%		6.3%	6.3%
Our user rep/s were the best possible people given our team's goal	12.5%	9.4%	21.9%	15.6%	21.9%	9.4%	9.4%
Our team's user rep/s got along very well with us	22.6%	25.8%	19.4%	29.0%			3.2%

Participants' assessment of the contributions of mentors and user reps tell, in a way, contrasting stories. By and large the assistance provided by mentors was viewed very positively. Strong majorities of participants saw mentors as helpful and available. The only chink in the armor, and it was a shallow one, was a small subset of participants (6) who strongly disagreed that their team's progress was dependent on help from the mentor. There was also more variation in evaluations of the statement about the quality of advice from mentors being uneven. We saw the same thing, though, in the ratings of instructors, and are inclined to think that in both cases participants were simply making the empirical observation that no one is perfect.

By contrast, except for most agreeing that their team got along with the user rep/s, majorities expressed doubts that their team had done right by its user rep/s. Most participants indicated that the team had been slow to engage user rep/s, and almost four out of five agreed that the team did not make good use of the user rep/s. And less than half supported the view that the user rep/s were a strong fit with the goal of the team.

8. Underlying Factors

We factor analyzed participant responses to the final cohort one survey, except for the ratings of instructors, COLRS, mentors, and user reps and the assessments of Web 2.0 confidence. The aim was to see if the underlying structure of the data provided by participants supported the categories used to organize the survey. We also wanted to see if the 28 items comprising that part of the survey could be boiled down into a smaller number of constructs to be used in further analysis.

The factor analysis, generally speaking, preserved four of the six survey categories. A few items shifted among categories, although not in ways that distorted, at least in our judgment, the meaning of a category. Several items did not statistically fit adequately in any category and were dropped. Here we identify the four final categories or factors and discuss what variables from earlier in the cohort appeared to influence participants' ratings on each factor.

The “value of experience” category was largely retained by the factor analysis. Above, in our discussion of the value of experience items in the survey, we made a distinction between behavioral commitment and affective commitment. Behavioral commitment involves the actions people take to show they are committed to something. Affective commitment represents their emotional or attitudinal attachment to a group or idea. The value of experience factor appears to reflect this emotional or attitudinal dimension of commitment. It was strongly correlated with participants’ sense, captured in the September survey, of benefiting personally from ILEAD U and having a positive view of the team’s ability. It was also correlated with how much time participants said they had been giving to ILEAD U – a measure of behavioral commitment – in that earlier fall survey (but not with time reported in the spring interview). When we did a regression analysis with experience value as the dependent variable, scores on the variable were strongly predicted by one September survey item in particular: believing that the team’s goal is of great consequence for those we serve. None of the background variables obtained in our initial baseline survey had a statistically significant relationship with ratings of experience value at the end, although one variable came close. How familiar a participant was with the other members of the team had a negative association with experience value.

The factor analysis also produced a “team cohesion” factor, which consisted of two of the cohesion items from the survey and one of the survey’s team effectiveness items (one of the most effective team ever served on). The addition of the effectiveness items raises a question. Whether in the context of cohort one, liking one’s team was wrapped up in evaluations of its effectiveness? It may have been, since the performance pressures to complete a project could have increased the salience of effectiveness as a way for participants to assess one another. If this was the case, then it most likely took shape early, since members of new groups tend to form opinions fairly quickly of one another. A regression analysis, with the team cohesion factor as the dependent variable, showed it to be most affected by two items from the spring interview: how much participants said their team has been working face to face and how confident they were that their team had the skills to reach its goal. Face to face meetings would have been a way for participants to get to know one another, and through that knowing, gain confidence in the ability of the team.

“Psychological safety” also emerged from the factor analysis as a distinct and meaningful factor for cohort one. Regression analysis revealed some interesting influences on participants’ sense of psychological safety. How often teams were meeting electronically early on was positively related to psychological safety at the end. Conceivably, electronic meetings reduced the social queues that participants might normally use to judge whether they are being judged. Psychological safety seemed to be adversely affected by perceptions of early team conflict over priorities. In other words, initial conflicts appeared to have enduring effects on how comfortable participants felt on their team. This could have been partly a function of the reality that team interactions were relatively infrequent and, so, opportunities to resolve tensions would have been limited, allowing the psychological consequences of those tensions to linger. Another interesting influence on psychological safety was the strength of a participant’s learning orientation as measured by the baseline survey nine months earlier. A stronger learning orientation seemed to serve as a buffer against threats to one’s psychological safety.

Lastly, the factor analysis generated a “balance with job” factor. Recall that this is basically a measure of how well supported participants felt by their home libraries. Two variables, one from the spring interview and another from the September survey, were shown by regression analysis to most affect participants’ scores on the “balance” factor. How much time participants said they were giving to ILEAD U early on was positively related to their sense of balance at the end. The more participants felt supported by their library, the more time they gave or were able to give during the initial months of the

cohort. Sense of balance appeared to be negatively impacted by how strongly participants felt in the fall that some members of the team lacked the necessary knowledge and skills. It is not obvious to us what this means, but a couple of possibilities come to mind. One is that participants' perceived the strength of support from their library to be contingent on their ability to contribute: more able participants received more support. The other possibility is the converse of this. Participants who perceived themselves as able, but who did not feel adequately supported by their library, may have felt some resentment toward well-supported team members who they regarded as less able and capable of contributing to the team's goal.

The above four team factors were the one set of variables in all of our analyses where we were able to see some differences between teams, rather than just differences among individuals regardless of team. We observed a statistically significant difference between teams on cohesion, and came close to statistical significance on psychological safety. Both of these findings make a good deal of sense, since cohesion and psychological safety required participants to make judgments about their teams. In contrast, value of the experience and balance with job were more individually focused.

The one category from the final survey not retained by the factor analysis was team structure. We are skeptical that this means team structure was unimportant to participants. Structure questions, such as goal and role clarity, were meaningful to participants in the spring interviews and September survey. It may be that after it was all essentially over, structure faded in its relevance to participants.

VII. Influences on Learning

The ultimate value of ILEAD U is what participants learn from it and then are able to apply successfully in their work. As discussed earlier, we measured learning at the conclusion of the cohort by asking participants to indicate how confident they were in their ability to teach what they learned during their participation to others. This naturally raised the question of what about the participants and their experiences during the preceding nine months affected these confidence levels.

For purposes of this examination, we conducted one further factor analysis. We factor analyzed the seventeen topics on which final confidence ratings were taken to see if they statistically could be grouped into a smaller number of conceptually meaningful categories. The analysis resulted in three factors. One factor consisted of the management and leadership topics covered in the first and second in-person programs (i.e., project management, community needs assessment, social media marketing, project assessment, knowing your audiences, and connecting with the community). A second included the more difficult participatory technologies (i.e., Drupal, Plinkit, LAMP, and PHP). And a third factor encompassed the less difficult participatory technologies, most of which were used by teams in their projects (i.e., WordPress, screencasting, information architecture, video production, internet-based meeting systems, and internet-based file sharing). The only item that did not load on any factor was digitization. In the analyses we report below, we make use of these three factors as well as the average confidence rating across all seventeen topics.

Analysis showed that relatively little, at least among the things we measured, seemed to affect average Web 2.0 confidence ratings at the end. The amount of time participants said they were giving to ILEAD U, both in the spring and the fall, were weakly related to overall confidence. How much of a priority ILEAD U was for participants early on bore a somewhat stronger relationship with final confidence. There was only a weak correlation between Web 2.0 confidence at the beginning and confidence at the

end. However, the more certain participants were in our spring interviews that they could perform the skills they learned at the first in-person program – a different measure of confidence, the higher their final confidence level. Participants with higher scores on the value of the ILEAD experience in our last survey were more likely to indicate higher confidence levels. Perhaps the most telling influence on confidence at the end was participants' learning orientation. Stronger learning orientations were associated with more confidence, and in regression analyses, learning orientation was the only coefficient that had a significant bearing on confidence.

What's interesting here is the lack of any apparent influence of teams on average levels of overall confidence at the end. None of the team variables captured in the spring interviews and none of the team factors from the September and November/December surveys were associated with the final measure of Web 2.0 confidence. Team influences become more evident, however, when we break Web 2.0 confidence down into its three subgroups or factors. In a rough sense, we see that teams seemed to matter to participant learning to the extent that participant learning seemed to matter to teams.

The apparent effect of teams on learning is most obvious in the case of confidence in the management and leadership area, the first factor described above. Ratings on team ability in September and team cohesion in November/December correlated with management and leadership confidence. Confidence in this area was related to more use of face to face communication and less use of electronic meetings early on, although ratings of the helpfulness of electronic meetings later on (in the September survey) were associated with higher confidence. We think the latter, positive association with electronic meetings probably represents team's learning to use this mode of communication and discovering its value. Other positive associations with management/leadership confidence were with how much of a priority ILEAD U had become by September and how much participants said they and their libraries were then benefiting from their participation. When we worked all of these variables into regressions with management/leadership confidence as the dependent variable, team ability and the perceived level of personal benefit from participation turned out to be the strongest predictors of participant confidence.

Apparent influences on confidence with the less difficult participatory technologies overlapped, to some degree, with those for management and leadership confidence, except for the exclusion of most of the team variables. The September measure for benefiting personally and the spring variable on certainty in being able to perform the skills learned at the first in-person program were both related to confidence in teaching others the easier Web 2.0 technologies. How much participants said they valued the team mentor in the November/December survey was correlated with this confidence, as was the amount of prior experience participants said they had working virtually when we asked them about this in the spring. The only team-related variable that appeared to affect confidence with the easier technologies was how often participants said their team used electronic meetings early on, and in this case, the association was negative. This negative relationship, and the positive one with certainty about using the first in-person program skills, emerged as the strongest in regression analyses.

Confidence with the more difficult Web 2.0 technologies was associated only with individual variables. These included measures of commitment – time given and how much of a priority ILEAD U was both in the spring and the fall, and how much overall value a participant derived from the LAMP session at the second in-person program. (Overall value combined learning and both team and personal use of session content.) The association with the strength of a participant's learning orientation fell just outside of statistical significance. In regression analyses that combined these different variables, only one variable emerged as significant – how much of a priority was attached to ILEAD U early on.

We think that the evident influences on these three confidence factors may suggest three different ways in which participants learned from their ILEAD U experience. Those with strong team orientations, and perhaps even strong teams, got the most out of the management and leadership content. This seems to make sense in that teams, themselves, had to be led and managed, so that there may have been a kind of conceptual resonance between training content and team functioning. Those who got the most out of the training content on the easier technologies may have been on teams they perceived as lacking some capability in one way or another (suggested by the high mentor ratings), and so they focused more on their own individual needs. Perhaps some of them were actually the team expert in using one more of these technologies for the team project. Those who got the most out of the training content on the harder technologies might be thought of as the true “techie” in the cohort. They had the highest levels of behavioral commitment to ILEAD U and the strongest learning orientations.

VIII. Participants’ Suggestions

When we asked participants in the November/December survey to rate instructors, mentors, COLRS, and user representative, we also asked if they had a suggestion for improving the role of each of these actors in ILEAD U.

The question for user representatives prompted the largest number of responses, with 56 percent of participants giving a suggestion. Most of the suggestions related to choosing user representatives after the team’s goal/project has been defined or after the first in-person program. Another three respondents talked about how the role or purpose of user representatives needed to be clarified. Other suggestions included: allowing a team to have more than one user rep, trying to get the user reps more involved, and having thanks and encouragement to user reps come from the State Library rather than local libraries.

Thirty-eight percent of respondents offered suggestions for improving COLRS role. These ideas can be grouped into four areas. Some respondents said some of COLRS’ sessions for ILEAD U were too general or basic or that they needed more specific, in-depth material relevant to their team project. One person recommended letting teams suggest topics for COLRS. Another group of respondents said a better explanation was needed of what COLRS could offer teams or the role COLRS could play. One idea here is to have information on the different areas of expertise of COLRS staff. A third group of respondents suggested improving awareness and scheduling of COLRS training sessions.

A fourth of respondents made suggestions for improving the role of instructors. One set of suggestions related to the relevance of instruction. Respondents here indicated a desire for: more advanced sessions on technologies teams have decided to use; providing time for instructors to sit with teams to provide specific advice; having more hands-on and sample projects in the instruction; and having instructors ask whether the material being taught is necessary for or relevant to team projects. A couple of respondents suggested receiving from instructors documentation of presentations or hand-out online. Another participant recommended including bios and contact information for instructors in the binders they receive.

Just under a fifth of those responding to the survey had ideas for improving the role of mentors. Most of these entailed suggestions for more mentor involvement, particularly during the in-person programs. Ideas here included hearing more from mentors as a group, having them involved in role playing and other “fun” activities, and just getting to know the mentor better. One person proposed that each team

meet with its mentor prior to the first in-person program. Another talked about giving more information to mentors so that they could “direct” the team better.

A final question in the November/December survey asked participants if there was anything else they wanted to tell us about ILEAD U or their participation in it. Half of the respondents gave an answer. Ten of them spoke along the lines of the positive, valuable, or rewarding experience that ILEAD U has been for them. They indicated that they had learned new things they could apply, or that what they learned had already impacted their workplace, or that the experience made them a more valuable employee. Others addressed the value of the experience, while also expressing more or less uncertainty about the receptivity of their libraries to this new learning.

Six of the respondents commented on their team. Two of these were positive references, and the other four were either negative or raised concerns about team dynamics. The latter included: a component that sensitizes team members to one another and their differing work environments (this participant said the team ended up giving into one person in order to get something done); the difficulty of working together as a team when you have never met before and not all are invested in the team project (this participant was also interested in learning more about what other teams were doing); the challenge to team dynamics when members come from different types of libraries and have different goals and objectives, and some team members are not interested in putting in the necessary time; and how a team’s instability diminished the time available to investigate new technologies.