Evaluation of ILEAD USA 2013

Center for State Policy and Leadership

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ILEAD is a program of the Illinois State Library (ISL) to train librarians in the use of participatory technologies, commonly referred to as Web 2.0. Starting in 2010, ILS received two grants from the federal Institute for Museum and Library Services (IMLS) to test ILEAD with two cohorts of Illinois librarians. Owing to the success of these first cohorts, in 2013 a third grant from IMLS enabled ISL to extend the program to four other states – Colorado, Iowa, Ohio, and Utah – and to expand it to a third cohort in Illinois. The Institute for Legal, Legislative, and Policy Studies and the Survey Research Office, both of the Center for State Policy and Leadership at the Springfield Campus of the University of Illinois (UIS), have been the evaluators of ILEAD since the beginning. In this report, UIS presents findings from its evaluation of ILEAD USA in 2013. Two previous reports in 2011 and 2012 covered findings from the evaluations of the earlier cohorts in Illinois.

In the ILEAD program model, librarians learn about Web 2.0 by participating on small teams of up to five librarians, typically from two to three different libraries. Each team develops a project using Web 2.0 technologies, and the teams learn about these technologies together principally through three different in-person training programs during the course of the program year (about 9 months). Each team is also assigned a mentor, usually a seasoned librarian, who is available to provide guidance and troubleshoot issues.

In 2013, 127 librarians, on 28 different teams, participated in ILEAD USA and agreed, through informed consent, to cooperate with the UIS evaluation. Teams were helped by 28 mentors, who also consented to the evaluation. Illinois had the largest number of members (44) and teams (10), and Ohio the smallest, 12 librarians on 3 teams. In all five states, teams and mentors attended in-state, in-person training programs during the same dates in March, June, and October. Training was provided by some common keynote speakers through video links across the five states, and then each state added to this with training delivered by local instructors. Training content useful to team projects occurred during the first two in-person programs. Since teams presented their final project results at the last in-person program, the training provided during this program served mainly a supplementary, rather than an essential, purpose.

Data and Analysis

Data for the evaluation was obtained primarily through four survey waves. Surveys were constructed mainly using items from or based on scales validated in prior research in other contexts. The survey instruments were the same as those used with the second cohort in Illinois, with only a fewer minor tweaks.

A baseline survey was conducted of participants before the first in-person training event in March 2013. This survey asked background questions on relevant demographic and job-related characteristics, and about early project team organizing activities. Mentors received a baseline survey covering only the demographic and job-related questions. The next two surveys were conducted between the first and second in-person training programs and between the second and third in-person training programs.

These surveys focused on participants' perceptions of project team functioning and evaluation of the content from the previous in-person training program. Mentors completed surveys that dealt only with content from the in-person training programs. The final survey occurred in November, approximately two weeks after the third and last in-person training program. In this survey, participants evaluated their teams and their overall ILEAD experience. In addition to the surveys, the ILEAD program directors from each state participated in brief telephone interviews prior to the first in-person training program. The interviews focused on start-up activities and perceptions of how ILEAD would unfold in each of their states.

Responses to the surveys have been used in two different kinds of analyses to evaluate ILEAD USA. The basic picture of ILEAD USA is painted through the use of descriptive statistics. This includes descriptions of who participated, how much they learned, what they thought of how their teams operated, and what they thought of ILEAD. For the most part, description is accomplished through the use of the statistical median (middle), rather than the mean or average, response to survey questions. With few exceptions, survey questions asked respondents to select among a set of ordered options, such as from "strongly agree" to "strongly disagree." The median more accurately reflects the ordinal nature of the response options.

To gain insight into what may have affected what in the unfolding of ILEAD USA, the most common type of multivariate analysis – linear regression – was used. This called for identifying desired outcomes, both along the way and at the end, then trying to see which other variables from the surveys were related to those outcomes and might help to explain them. Thus, for example, participant responses to the baseline survey might help to explain their responses to questions about team functioning on the survey administered between the first and second in-person training programs. In order to make regression workable, the large numbers of variables captured by the surveys were evaluated, using factor analysis, to see if they could be combined into a smaller number of multi-variable factors. This procedure, which was also followed in the evaluations of the first and second cohorts in Illinois, was largely successful.

Throughout the report, to the extent possible, findings from 2013 are compared with findings from the first Illinois cohorts in 2011 and 2012. Participants in 2013 are also compared with mentors in 2013 when they answered the same survey questions.

The five states are not individually identified with particular results in this report. Except for Illinois, the number of participants in each state was too small to support statistical analysis by state. Thus, for the most part, results are reported for the five states combined. In some cases, where a pattern of difference across states is distinctive, this is noted in general without reference to particular states. Avoiding the identification of results for particular states is also consistent with the confidentiality promised to participants as part of their informed consent to cooperate with the evaluation. The smaller the number of participants from a state, the easier it would be for readers of this report to speculate on how particular participants responded to particular questions.

Participant Characteristics and Other Baseline Survey Results

Demographically, participants in ILEAD USA were similar to the librarians who participated in the first two Illinois cohorts.

Table 1: Demographic Characteristics

Demographic Characteristics	ILEAD USA Participants	Illinois Cohort 2	Illinois Cohort 1	ILEAD USA Mentors
Years of experience as librarian (median)	6.0	6.0	6.0	16.0
Years with current employer (median)	5.0	6.0	3.5	5.0
Years in current position (median)	2.8	3.0	2.0	3.0
Median age[1]	30 to 39	30 to 39	30 to 39	40 to 49
Percent who supervise others	53.3%	62.2%	51.3%	75.0%
Average number supervised	6.6	7.5	8.2	14.2
Percent female	81.0%	75.7%	92.3%	66.6%
Mean length of time have known other team members (in years)	0.8	1.0	0.5	NA
Percent with Master's degree or above[2]	77.7%	81.1%	NA	100.0%

They all had the same median length of time working as librarians, at six years, and about the same length of time in their current job, between two and three years. Time with their current employer was nearly the same for ILEAD USA and the second cohort in Illinois, at five to six years, while for the first Illinois cohort the median time they had spent with their current employer was notably lower, at three and a half years. Participants in all three groups were more likely to be in their thirties than any other age category. As will be shown later, some of these employment and age variables turned out to be associated with various aspects of team functioning and evaluations of the ILEAD USA experience. Note that ILEAD USA mentors were both older and, unsurprisingly, had been librarians for considerably longer.

A majority of ILEAD USA participants were supervisors, continuing the pattern established in the first two cohorts in Illinois. The vast majority of participants in all three groups were female, although the numbers of women involved has dropped since the high of 92.3 percent in Illinois cohort one. Interestingly, a third of the mentors in ILEAD USA were men. More than three-fourths of participants and all mentors in 2013 had earned a master's degree or above. None of these variables, measured at the start, explained participants' later perceptions of their experience in ILEAD USA.

All participants in ILEAD to date have been asked at the beginning how long they had known the other members of their team prior to ILEAD. As can be seen in Table 1, on average team members in 2013 had known each other just under a year, very similar to the experience in Illinois cohort two and

[1] Age ranges included: 18-29, 30-39, 40 to 49, 50 to 59, 60 and older.
[2] Choices for highest level of education completed included: high school diploma, some college, bachelor's degree, master's degree, degree beyond master's.

somewhat longer than in Illinois cohort one. It was expected that differing degrees of familiarity among members might affect team functioning. This turned out not to be true for ILEAD USA, except in a very limited way, essentially replicating results from the analysis of the earlier Illinois cohorts.

The proportions of ILEAD USA participants working at different types of libraries were roughly the same as the first two cohorts in Illinois. Although the actual percentages in Table 2 (below) differ across these cohorts, this is due to the greater tendency of cohorts one and two in Illinois to characterize their library as being of more than one type (which is why the numbers in each column sum to greater than 100 percent). Controlling for that, the basic pattern doesn't change across cohorts. Most participants reported working in public libraries, followed by academic libraries. Fewer worked in school, specialty and other types of libraries.

Table 2: Type of Library Where Work

Library Type	ILEAD USA Participants	Illinois Cohort 2	Illinois Cohort 1	ILEAD USA Mentors
Public	54.4%	67.6%	69.2%	71.4%
School	14.6%	18.9%	12.8%	0.04%
Academic	27.2%	35.1%	53.8%	39.3%
Specialty	10.8%	21.6%	23.1%	21.4%
Other	7.0%	8.1%	17.1%	32.1%

ILEAD USA participants were asked at baseline to evaluate how much independence and interdependence they had in their job. They were also asked to rate themselves on group or teamwork skills that are common in organizations, and on how often they used different modes of communication in their job. It was assumed that these three types of characteristics might influence the attitudes and behavior that participants brought to their ILEAD project teams. Except for the communication questions, all of these questions were also posed in the baseline surveys of participants and mentors in the earlier Illinois cohorts.

Table 3: Relevant Job Characteristics

Job Characteristics (median scores) 1= High, 7 = Low	ILEAD USA Participants	Illinois Cohort 2	Illinois Cohort 1	ILEAD USA Mentors
Extent to which current job calls for independence[3]	2.5	2.5	2.8	3.5

[3] Job independence included the following items: I am able to plan my work without having to coordinate much with others; I work fairly independently.

Extent to which current job calls for interdependence[4]	2.3	2.0	2.3	1.7
Level of group skills[5]	3.5	3.5	3.5	1.9
Use of common modes of communication on job[6]	2.2	2.0	NA	2.0
Use of rarer modes of communication on job[7]	5.0	4.5	NA	4.0

ILEAD USA participants were similar to Illinois cohorts one and two on self-reported levels of job independence and interdependence. The median participant score leaned toward higher levels of both qualities, although mentors in 2013 indicated jobs with somewhat lower levels of independence (probably a function of the higher likelihood of being in a supervisory position dependent on others for getting work done). The median score for group skills among participants was closer to the mid-point of the range, neither high nor low, and this was the same for the first two cohorts in Illinois. Mentors in 2013 indicated higher levels of these skills. There were also similar patterns of use for different modes of job communication among participants in all three cohorts and mentors in ILEAD USA. Some of these job characteristics figure into later explanations of participants' assessments of their teams and ILEAD USA more generally.

The baseline survey included a section that asked respondents to indicate their level of agreement with items that measure their motivation to perform and learn. A strong performance orientation means that people are motivated by external recognition, while a strong learning orientation means that people are motivated by an intrinsic desire for mastery of content. ILEAD has elements of both: completing team projects reflects performance, learning from training and team activities reflects mastery.

Table 4: Performance and Learning Orientations

Motivation to Learn (median scores) 1 = Strong, 7 = Weak	**ILEAD USA Participants**	**Illinois Cohort 2**	**Illinois Cohort 1**	**ILEAD USA Mentors**
Strength of performance orientation[8]	2.8	1.5	2.0	2.0
Strength of mastery orientation[9]	1.7	2.0	2.0	1.8

[4] Job interdependence included the following items: My performance is dependent on receiving accurate information from others; To do my job, I need to spend most of my time talking to others; In my job, I am frequently asked to provide information and advice.

[5] Group skills included: developing new project teams, negotiating formal agreements with other organizations, resolving conflicts among stakeholders in the organizations where you have worked, and adopting and using practices, techniques, and tools developed by others.

[6] Common modes of communication included: email, phone calls, file sharing, voicemail, and face-to-face.

[7] Rarer modes of communication included: electronic meetings, teleconferencing, and videoconferencing.

[8] Performance orientation consisted of the following items: I value what others think of my performance; I like to meet others' expectations of me; The opinions others have about how well I can do certain things are important to me; I am not interested in impressing others with my performance (reverse scored).

[9] Learning orientation consisted of the following items: The opportunity to extend my range of abilities is really important to me; I prefer to work on tasks that force me to learn new things; It is better to stick with what works than risk failing at a task (reverse scored); In learning situations, I tend to set fairly challenging goals for myself.

As can be seen, ILEAD USA participants had a stronger median mastery than performance orientation, although both were on the "strong side" of the scale. While the difference is not large, this reversed the pattern evident in the second Illinois cohort, where performance outscored mastery by half a point. While, in previous cohorts, performance and learning orientations appeared to have a modest influence on how participants experienced ILEAD and what they got out of it, they had no detectable influence among participants in ILEAD USA.

Participants were asked at baseline questions about the extent of their project team activities prior to the first in-person training program. In the first Illinois cohort, participants during interviews conducted early on indicated there had been very little "pre-training" team activity. It was thought that this might have interfered with the development of at least some of the first cohort teams. Beginning in the second Illinois cohort, more encouragement was given to pre-training team organizing, and to capture this, a section of questions was added to the baseline survey.

Table 5: Preliminary Project Team Activity

Preliminary Project Team Activities	ILEAD USA Participants	Illinois Cohort 2
Percent saying team has met in person	36.6%	35.1%
Percent saying team has met online or by conference call	66.7%	64.9%
Frequency of communication with other team members (median scores)	Every other week	Every other week
Percent saying project team has selected a goal	76.7%	56.8%
Team goal specified so clearly that all members should know exactly what trying to accomplish (median scores). 1 = Strongly agree, 7 = Strongly disagree	3.0	3.0

ILEAD USA participants and Illinois cohort two participants reported almost exactly the same degree to which teams had met in person or online or by conference call, and the same median frequency of communication among team members, before the first training program. There was a clear difference, however, in the extent to which participants said their team had selected a project goal; more than three-fourths of ILEAD USA respondents reported having chosen a goal, while just over half of cohort two reported this. The two groups expressed the same level of moderate agreement that the selected goal was clear to all team members.

An important purpose in designing the initial baseline survey for the first cohort in Illinois was to measure participants' current level of self-reported competence with Web 2.0 technologies. The expectation was that competence with these same technologies could be measured at the end of ILEAD to see if there had been change. The training participants actually received, however, turned out not to be specifically designed to teach the technologies covered in the baseline survey. This continued in the second Illinois cohort and in ILEAD USA. However, despite the inability to do before and after

comparisons, the original list of technologies has been retained in the baseline survey to provide an indication of general familiarity with Web 2.0.

Table 6: Self-Efficacy with Common Web 2.0 Technologies

Web 2.0 Technologies (median scores) 1 = High self-efficacy, 7 = Low self-efficacy	**ILEAD USA Participants**	**Illinois Cohort 2**	**Illinois Cohort 1**	**ILEAD USA Mentors**
Blogging tools	2.0	2.0	3.5	3.0
Digital/audio podcasting	4.0	4.0	6.0	4.0
Digital photography	2.0	3.0	3.0	2.0
Gaming	4.0	4.0	4.0	4.5
Instant messaging	1.0	1.0	2.0	2.0
Photo-sharing websites	2.0	2.0	2.0	2.0
RSS feeds	3.0	2.0	3.0	3.5
Social bookmarking	3.0	3.0	4.0	3.0
Social networking	1.0	2.0	2.0	2.0
Tagging	3.0	4.0	5.0	4.0
Videoconferencing	4.0	4.0	4.0	3.0
Virtual referencing	3.0	2.0	3.0	4.0
Web conferencing	3.0	4.0	4.0	2.0
Wikis	3.0	2.0	3.0	3.0
Overall Web 2.0 self-efficacy at baseline	**2.8**	**2.5**	**3.3**	**2.9**

The survey asked respondents to indicate how confident they are that they can teach each technology to other people. Confidence in teaching or showing others is a common way in social psychological research to measure a person's perceived self-efficacy in a particular domain. As can be seen in Table 6, ILEAD USA participants and mentors and Illinois cohort two provided similar ratings, with never more than a point difference on the seven-point self-efficacy scale. Cohort one in Illinois generally indicated somewhat less confidence. On the whole, ILEAD USA Web 2.0 confidence levels were moderately high at the beginning of the program. It is worth noting that though the median rating was moderately high, there were participants who scored themselves at every point on the 7-point scale. In other words, participants from the five states came into ILEAD USA with widely ranging abilities in Web 2.0, posing a challenge in designing training that could meet the needs of all of them.

It should be noted that for several questions in the baseline survey there were obvious differences among the five states.[10] These questions include length of time as a librarian, percentage with a master's degree or above, familiarity with other team members, levels of job independence and interdependence, strength of performance orientation, how often team members communicated before the first training, whether a team goal had been selected, and, if so, clarity of that goal.

Learning and Use of Training Content

In the spring and fall surveys and the final survey in 2013, participants were asked to evaluate the value of the previous in-person training event. In the spring and fall surveys, the evaluation question had three parts: how much had you learned from each of the training sessions, how much had your project team used the content from each session, and how much had you used that content for purposes apart from your project team. The final survey only asked about learning. Mentors completed similar surveys in the spring and fall, focusing on how much they thought the team had learned and used training content.

Table 7: Learning and Use of Training Content[11]

Learning and Use of Training Content (median scores) 1 = A lot, 7 = Not at all	**ILEAD USA Participants**	**Illinois Cohort 2**	**Illinois Cohort 1**	**ILEAD USA Mentors**
How much did you learn?				
First in-person program	4.2	2.0	NA	4.3
Second in-person program	3.0	3.0	2.7	3.3
Third in-person program	3.1	NA	NA	NA
How much has team used?				
First in-person program	5.3	4.5	NA	5.2
Second in-person program	4.0	6.5	4.3	3.6
How much have you used?				
First in-person program	5.4	5.3	NA	NA
Second in-person program	4.1	7.0	4.9	NA

Participants' and mentors' median scores for learning from the first in-person training program in 2013 were both at the midpoint of the 7-point scale, where 1 means "a lot" and 7 means "not at all. By comparison, self-reported learning from the first in-person training program in the second Illinois cohort

[10] State –to-state differences were computed using cross-tabulation, and the statistical significance of differences was determined with the phi statistic, which is more appropriate for ordinal data than the more common chi-square test.

[11] Medians scores for learning and use of training content for the five states as a whole do not take into account the fact that training content varied to some extent from one state to the next. In other words, the circumstances of learning and use were not fully equivalent. Therefore, the median scores in the table should be treated as only rough approximations.

was two points better, a fairly substantial difference. Illinois cohort one participants were not surveyed about their reactions to the first training event, but observation of that training by UIS evaluators and subsequent interviews with participants indicated the types of flaws common in the first iteration of a new program. Some evidence of these same flaws emerges in open-ended comments ILEAD USA participants made at the end of spring 2013 survey. Participants expressed concerns about training sessions giving them too little opportunity to participate, about not meeting their expectations of becoming immersed in learning about new technologies, and about their teams being disorganized. The last point, while not an evaluation of the training per se, might nevertheless have colored how participants saw the value of the training.

While learning from the first in-person training of ILEAD USA did not measure up to the second cohort in Illinois, perceptions of team and personal use of that training content were similar. With both cohorts, ratings were a little worse than the midpoint of the 7-point scale. It has been difficult in ILEAD to design training content carefully aligned with team and personal needs because of the tendency of these needs to evolve and shift during the program and because needs differ across teams and participants. A related challenge has been striking a balance between training in the use of particular technologies and training oriented to library leadership and management. In ILEAD USA, participants' comments in the spring survey indicated varying expectations along these lines about what they wanted from the training.

Learning from the second ILEAD USA in-person training program was very consistent with reported learning from the second program in both of the previous Illinois cohorts, and for ILEAD USA this learning represented a marked improvement over the first in-person program. The improvement was similar to the pattern evident in the first Illinois cohort, where negative impressions about the initial training event were reversed by the second training event. This hints at the possibility that extending ILEAD to other states in 2013 was, in some sense, akin to starting over. The model was not just new to the four new states. It was also modified to incorporate a mix of common and state specific training content. Thus, it is not surprising that states learned from the failings of their first in-person training and made progress in correcting them in the second. There is also evidence from comments participants made in the fall 2013 survey, when they evaluated the second training, that some of the anxiety they probably felt going into ILEAD USA had to a degree dissipated with time and experience.

Not only did learning improve from the first to second training events in ILEAD USA, but team and personal use of training content did as well. This is a notable contrast with the second cohort in Illinois, in which use of training content worsened dramatically between the spring and fall surveys. While the comments section in the fall 2013 survey still contained gripes, the overall tone was more upbeat and complementary. Participants talked about ILEAD being "fabulous" and "a very valuable experience." One person even suggested that the content of the second training was what should have been delivered at the first.

Self-reported learning from the third ILEAD USA in-person training program, which was not measured in the earlier Illinois cohorts, was about the same as it was for the second training program, at about one point better than the midpoint of the scale. Since this training was not related to team projects, it suggests that by the end of the program ILEAD had succeeded in establishing a kind of learning community not dependent on those projects. The report will return to this idea in the conclusions and recommendations section.

Team Functioning

In the ILEAD model, small teams are the main context in which librarians learn about and develop their skills with Web 2.0 participatory technologies. In the course of ILEAD, participants not only learn about Web 2.0, but they also learn about working with their particular team. Thus, how the team functions is likely to have a meaningful effect on what participants learn about Web 2.0.

The model adds an additional layer of complexity by expecting teams to be composed of librarians from more than one library. For example, three of the team members may be from a single library and the other two from a different library. The odds are that participants from the same library are likely to be more familiar with each other than they are with participants from other libraries. So, participants must spend time getting to know one another while also figuring out and implementing their common project, all in the course of trying to build their Web 2.0 competence.

Because of the centrality of teams to the ILEAD model, evaluation surveys administered to the three cohorts have been biased toward obtaining participants' perceptions of their team's functioning.

Team Direction and Structure

ILEAD USA teams first each had to figure out what they wanted their project to be and how to organize themselves to accomplish the work entailed in that project. Even though there was an expectation that at least the basic idea for the project would be identified before the initial in-person training, efforts to further define the project at the first training and beyond were likely. And this, in turn, might continue efforts to determine how the work would get done.

The spring and fall surveys asked participants questions about the direction and structure of their team and their individual roles on the team. They were also posed a series of questions on the clarity of various aspects of organizing the team project.

Table 8: Team Direction and Structure

Team Direction and Structure (median scores) 1 = Strongly agree, 7 = Strongly disagree	**ILEAD USA Spring**	**ILEAD USA Fall**	**Illinois Cohort 2 Spring**	**Illinois Cohort 2 Fall**	**Illinois [12] Cohort 1 Fall**
Team goal is specified so clearly that all members should know exactly what teem is trying to accomplish.	NA	2.0	NA	2.0	2.5
What team supposed to accomplish remains unclear.	NA	6.0	NA	6.0	2.5

[12] The first cohort in Illinois was interviewed, rather than surveyed, in the spring of the ILEAD program period. The results of these interviews were then used to inform the first iteration of the survey. The survey questions on teams were further refined and amplified for the second cohort in Illinois.

Goals and priorities of team are not clear enough.[13]	5.5	6.0	4.0	6.0	
Conflicting priorities exist on the team.	5.0	5.0	4.0	6.0	3.0
Individual roles on team are very clear and we don't stray from them.	4.0	4.0	4.0	4.0	
There is a clear team leader who guides what we do.	3.0	4.0	4.0	4.0	
Team follows a very structured work schedule	5.0	5.0	5.0	5.0	
Members assigned to tasks commensurate with their knowledge and skills.	2.5	2.0	4.0	2.0	
Team has a good map of each other's talents and skills.	3.0	3.0	3.0	2.0	
Members do not know what skills and knowledge they each possess relevant to team goal.	5.0	6.0	6.0	6.0	
Team comes up with innovative ways of proceeding.	NA	3.0	NA	3.0	2.0
Team has great deal of difficulty carrying out plans.	NA	6.0	NA	4.0	5.0

The median responses to the items listed in Table 8 suggest that teams had a fairly clear sense of direction for their projects and had organized in an appropriate way. Indeed, there are some indications that ILEAD USA teams were better organized early than the second cohort in Illinois. In the spring 2013 survey, team members were more aware of the abilities on their team and were less likely to perceive lack of clarity and conflict with respect to direction compared to the Illinois second cohort at the same point. Perceptions recorded for each cohort in the fall survey, a more mature point in the program, were nearly identical, with one exception. ILEAD USA teams were substantially less likely to agree that their team has had difficulty carrying out plans.

ILEAD USA participant perceptions of team direction and structure in the spring was the one aspect of the evaluation of team functioning where there appeared to be distinct differences across the five states.

Questions in the spring and fall surveys on members' perceptions of their own roles were designed to get at whether members developed specialized roles attuned to the needs of the team project. Interviews with participants in the first cohort in Illinois had revealed that some teams made it all the way through ILEAD without ever getting very far in clarifying and differentiating member roles, and this appeared to lead to more limited progress with projects than occurred with teams that divided the labor more clearly. Consequently, for the second cohort in Illinois, questions were added to the spring and fall surveys to address this issue.

[13] Using a t test to compare responses to the same item between the spring and fall surveys, it was found that the perception of goals and priorities not being clear declined significantly.

Table 9: Member Roles

Member Roles on Team (median scores) 1 = Strongly agree, 7 = Strongly disagree	**ILEAD USA Spring**	**ILEAD USA Fall**	**Illinois Cohort 2 Spring**	**Illinois Cohort 2 Fall**
I am responsible for particular tasks.	2.0	2.0	3.0	2.0
Every member of team has same role.	4.0	4.0	3.0	4.0
I am on team to represent my library.	3.0	3.0	2.0	2.0
I am on team because of my particular expertise.	3.0	2.0	3.0	3.0
I am on team to learn more about Web 2.0.	3.0	2.0	2.0	2.0

Team members had similar views of their roles, in the spring and in the fall, in both ILEAD USA and the second cohort in Illinois. There was a slightly greater tendency for ILEAD USA participants in the spring to see themselves in specialized roles compared to their second Illinois cohort counterparts.

Another set of survey questions was designed to take a more fine-grained look at participants' sense of how clear the team was about what it was trying to do.

Table 10: Clarity about Work of Team

Clarity about Work of Team (median scores)[14] 1 = Very clear, 7 = Not clear at all	**ILEAD USA Spring**	**ILEAD USA Fall**	**Illinois Cohort 2 Spring**	**Illinois Cohort 2 Fall**
Each of the tasks that need to be accomplished.	2.0	2.0	4.0	2.0
Dividing up time among tasks.	3.0	2.0	4.0	2.0
What each member personally responsible for doing.	2.0	2.0	3.0	2.0
When each task will be completed.	3.0	3.0	4.0	3.0
What constitutes success.	3.0	3.0	4.0	3.0
Criteria used to evaluating final team product.	4.0	4.0	4.0	3.0
What final output of team will look like.	3.0	2.0	4.0	2.0

The pattern of responses to the clarity questions are consistent with the two previous sets of questions. They show that ILEAD USA participants were, in the spring, somewhat more likely than the second cohort in Illinois to perceive as clear the organization of team tasks and what the final output of the team would be. The only survey item on which ILEAD USA participants were slightly less clear was the criteria for evaluating the final team product in the fall.

[14] T tests showed that several of the items in the clarity scale improved significantly between the spring and fall surveys, including: tasks that need to be accomplished, what each member is responsible for, what criteria will be used to evaluate final product, and what final output will look like.

Commitment and Team Cohesion

Another important aspect of team operations is member commitment to the team and how well members get along. This dimension has special significance in the context of ILEAD because of the fact that not all team members know each other beforehand and the teams are likely to be short-lived.

Member commitment was measured in the spring and fall surveys by asking pertinent questions about both behavior (amount of time given to ILEAD between trainings) and attitude (priority of ILEAD and perceived conflict with other responsibilities).

Table 11: Commitment

Commitment to Team and ILEAD	ILEAD USA Spring	ILEAD USA Fall	Illinois Cohort 2 Spring	Illinois Cohort 2 Fall	Illinois Cohort 1 Fall
Time given to ILEAD since last training (median scores)[15]	1-2 hours/wk	1-2 hours/wk	1-2 hours/wk	1-2 hours/wk	1-2 hours/wk
Priority of ILEAD for you 1 = High priority, 7 = Low priority	3.0	3.0	3.0	2.0	2.0
Extent to which your other responsibilities have conflicted with ILEAD 1 = A lot, 7 = Not at all	3.0	3.0	3.0	3.0	2.0

The median response for time given to ILEAD has remained consistent across the three cohorts in both the spring and the fall, at 1-2 hours a week. While there has always been variation around this median, with some participants reporting more time and others less, the general consistency in favor of a relatively modest share of the typical work week probably captures the reality that ILEAD participation is "in addition to" one's regular job.[16] The priority participants have accorded ILEAD has also been largely invariant across cohorts, although it is notable that while priority increased by one point on the 7-point scale between the spring and fall for the second cohort in Illinois, it did not change during the same period for ILEAD USA participants. Participants have been consistent as well in regarding their participation in ILEAD as moderately in conflict with their other responsibilities. In ILEAD USA, time given and priority were positively correlated, while priority, but not time given, in both the spring and the fall was associated with less job conflict. The more participants felt ILEAD conflicted with their other responsibilities, the less priority they gave to it, although this did not appear to have an effect on the amount of time they gave.

The spring and fall surveys asked participants to evaluate a number of items that in various ways measure their sense of cohesion or belonging to the team and treatment of one another. Factor analysis also indicated that a survey item on the significance of the team project goal was more strongly correlated with the cohesion items than with items measuring perceptions of team direction. The suggestion is that the felt significance of the goal may have been an element in the bond that team members felt toward one another and their team.

[15] Response options in the surveys included: less than 1 hour a week, 1 to 2 hours a week, 3 to 4 hours a week, more than 4 hours a week.

[16] Responses to the spring survey, but not the fall survey, showed significant differences among the state for time participants had given to ILEAD and how much of a priority it was for them.

Table 12: Team Cohesion

Team Cohesion (median scores) 1 = Strongly agree, 7 = Strongly disagree	**ILEAD USA Spring**	**ILEAD USA Fall**	**Illinois Cohort 2 Spring**	**Illinois Cohort 2 Fall**	**Illinois Cohort 1 Fall**
Would feel guilty if left team now.	1.0	1.0	1.0	1.0	
Team has a great deal of personal meaning to me.	3.0	3.0	3.0	2.0	
Would not leave team because I have sense of obligation to it.	1.0	1.0	1.0	1.0	
Members have to depend heavily on one another to get work done.		3.0		2.0	2.0
Do not feel strongly sense of belonging to team.	6.0	6.0	6.0	6.0	
Members are too dissimilar to work together well.		6.0		7.0	6.0
Team handles differences of opinion privately or offline, rather than directly.		4.0		4.0	4.0
Team goal of great consequence for those we serve.	2.0	3.0	3.0	3.0	3.0

Again, across all three cohorts participants' evaluations of team cohesion have been consistent. Participants have generally expressed a strong sense of obligation to their team, although seemingly more when obligation represents belonging *per se* than when it represents identification with what the team is trying to do. The only item in this scale that deviates from the pattern is handling differences on the team privately rather than as part of team deliberations. The median score on this in the midpoint of the range indicates that teams have not developed strong routines for managing conflict. The emergence of such routines, research shows, is more likely when members interact more often.

The spring and fall surveys since cohort two in Illinois have also asked participants to rate the importance to themselves and to their teams of salient aspects of team functioning, including belonging, as well as goal accomplishment and clarity of roles and responsibilities. Studies have shown that evaluations of "importance" yield additional information about people's perceptions.

Table 13: Importance Ratings

Importance of Key Aspects of Team (median scores) 1 = Very important, 7 = Not at all important	**ILEAD USA Spring**	**ILEAD USA Fall**	**Illinois Cohort 2 Spring**	**Illinois Cohort 2 Fall**
Importance to you personally that team accomplishes its goal.[17]	1.0	2.0	1.0	1.0

[17]A t test showed that ratings of the importance of this item declined significantly between the spring and fall surveys.

Importance to your team that it accomplishes its goal.	1.0	2.0	2.0	2.0
Importance to you personally that roles and responsibilities on team are clear.	2.0	2.0	2.0	2.0
Important to your team that roles and responsibilities are clear.	3.0	3.0	3.0	3.0
Importance to you personally that you have sense of belonging to team.	2.0	2.0	2.0	2.0
Importance to team that every member have sense of belonging.	2.0	2.0	2.0	2.0

For the most part, ILEAD USA participants rated importance in the same way the second cohort in Illinois did. Accomplishing the team goal loomed largest followed by belonging and role clarity, although the differences here were not large. Participant perception of the importance of role clarity to their team measured just on the affirmative side of the scale, suggesting the challenges involved in organizing work among people who spend a relatively short amount of time together. It is noteworthy that the one difference between ILEAD USA and the second Illinois cohort was in the importance attached to goal accomplishment. ILEAD USA participants started out giving this the highest rating of importance but by the time of the fall survey, goal accomplishment had become slightly less important.

Communications

The team-based design of the ILEAD model would appear to place a premium on effective communication among team members. As already note, the baseline survey asked participants how they communicate in their jobs. In the spring and fall surveys, they were essentially asked the same questions in the context of their ILEAD teams.

Table 14: Frequency of Communications

Frequency of Communications (median scores) 1 = Very often, 7 = Not at all	**ILEAD USA Spring**	**ILEAD USA Fall**	**Illinois Cohort 2 Spring**	**Illinois Cohort 2 Fall**
Email	1.0	1.0	1.0	1.0
Electronic meetings	6.0	7.0	3.0	4.0
Teleconferencing	7.0	7.0	7.0	6.0
Videoconferencing	7.0	7.0	7.0	7.0
One-on-one phone calls	6.0	5.0	4.0	4.0
File sharing	2.0	2.0	4.0	2.0
Voicemail	7.0	7.0	7.0	7.0
Face-to-face meetings[18]	3.0	3.0	3.0	2.0

[18] A t test showed that face to face meetings became significantly more common between the spring and fall surveys.

Table 15: Helpfulness of Communications

Helpfulness of Communications (median scores) 1 = Very helpful, 7 = Not at all helpful	**ILEAD USA Spring**	**ILEAD USA Fall**	**Illinois Cohort 2 Spring**	**Illinois Cohort 2 Fall**
Email	1.0	1.0	1.0	1.0
Electronic meetings	6.0	6.0	2.0	2.0
Teleconferencing	5.0	7.0	3.5	4.0
Videoconferencing	5.0	6.0	3.5	3.0
One-on-one phone calls	4.0	3.0	1.0	1.0
File sharing	1.0	1.0	2.0	1.0
Voicemail	7.0	6.0	3.5	3.0
Face-to-face meetings	1.0	1.0	1.0	1.0

How often ILEAD USA participants used various modes of communication to relate to their team members was similar to the second cohort in Illinois, with two principal exceptions. ILEAD USA participants made less use of electronic meetings, and somewhat surprisingly, one-to-one phone calls. As has been the case throughout ILEAD, most communications in ILEAD USA occurred using email, face-to-face meetings, and file sharing. And these modes were also rated as the most helpful in both the spring and fall surveys. ILEAD USA participants were more likely to rate other modes of communication as less helpful than the second Illinois cohort. In the second cohort, all methods of communication were evaluated as more rather than less helpful. This was not true for ILEAD USA, in either the spring or the fall, where electronic meetings, teleconferencing, videoconferencing, and voicemail were rated as or close to "not helpful at all." The fairly clear differentiation between helpful and not helpful methods of communication may help to explain a statistically significant difference among states in the spring in response to a question on the overall effectiveness of team communication.

Team Capability

In addition to direction, structure, cohesion, and communication, ILEAD USA participants were asked in the fall survey to evaluate items on the capabilities of their team. These questions were not included in the spring survey on the belief that early on members would not have enough information to judge team capability accurately.

Table 16: Team Capability

Team Capability (median scores) 1 = Strongly agree, 7 = Strongly disagree	**ILEAD USA Fall**	**Illinois Cohort 2 Fall**
Members have more than enough talent and experience for our goal.	2.0	2.0
Some members lack knowledge and skills needed to do their part.	6.0	6.0
Information and knowledge available to team has been more than adequate.	3.0	3.0

Everyone on team has the special skills needed.	2.0	3.0
Team does not have a broad enough range of experiences and perspectives.	6.0	6.0
Team has nearly an ideal mix of members.	2.0	2.0

Median scores for ILEAD USA participants on their perception of team capability were essentially identical to the scores on this dimension in the second cohort of Illinois. All in all, participants perceived their teams and their fellow members as capable.

Potential Influences on Team Functioning

Variables from the baseline, spring, and fall surveys were assessed to identify potential influences on the measures of team functioning identified above. The main analytical strategy was to try to predict team functioning outcomes (e.g., capable team) at one point in time by using variables from preceding surveys. So, for example, to predict team functioning outcomes derived from responses to the fall survey, variables from the two previous surveys were analyzed. Not only did this strategy fit the ILEAD model, in which team activities evolve over time. It also mitigated the problem of common method bias[19], which can arise when using variables from a survey to predict other variables from the same survey. Given the large number of items in the surveys, factor analysis was used to reduce the amount of data by statistically combining correlated items into broader variables.

Starting with the spring survey, factor analysis reduced the team functioning items to three factors: team direction and structure[20], team challenge[21], and team belonging[22]. None of the items from the baseline survey predicted scores on any of these factors in regression equations. However, there were some interesting bivariate correlations between the factors and baseline items. Team belonging in the spring was moderately correlated with the baseline measure of competence in using Web 2.0 (r= .246, p=.023). In other words, identifying with the team might have been helped by members feeling comfortable with the subject matter. Team challenge was correlated with age (r=.288, p=.007), meaning the older the participant the stronger the sense of challenge. Although it runs into the problem of common method bias, a factor representing having an unspecialized role on the team[23] in the spring was positively correlated with team challenge (r=.261, p=.013), as well. This suggests the possibility that a

[19] Common method bias occurs as a result of respondents answering questions in a survey in the same way or with the same bias. In other words, instead of regarding each question on its own terms, they answer it based on how they have already answered preceding questions. These leads to responses being over-correlated with each other.
[20] Team direction/structure consists of the following survey items: roles are very clear on team (α=.814), assigned tasks are commensurate with knowledge and skill (α=.828), goals and priorities are not clear enough (α=-.687), have good map of each other's talents and skills (α=.842), follow very structured schedule (α=.690), do not know what skills and knowledge ach possess (α=-.859), conflicting priorities exist (α=-.700).
[21] Team challenge consists of two items: team goal is so challenging have to stretch to accomplish it (α=.740) and feel as if team's problems are my own (α=.810).
[22] Team belonging consists of the following items: would feel guilty if left team now (α=.797), team has great deal of personal meaning for me (α=.484), and would not leave team because have sense of obligation to it (α=.913).
[23] Unspecialized role consists of: every member has same role (α=.528), on the team to represent my library (α=.754), on the team to learn about Web 2.0 (α=.744).

lack of structure in the spring, at least as measured through the lack of role differentiation among team members, may have contributed to feelings of being somewhat overwhelmed by the team goal.

Factor analysis of team functioning items in the fall survey yielded five workable factors: clear structure[24], lack of clarity[25], identification with team[26], lack of cohesion[27], and team capability[28]. Regressions indicated that each of these factors was predicted by variables derived from the two previous surveys.

- Clear structure was predicted by team direction/structure in the spring (β=.478, p=.000), a factor representing frequency of use of common communication modes, including email, file sharing, and face to face meetings (β=.284, p=.008), and number of years in current job position (β=-.177, p=.020).[29] This suggests that teams which were well-organized in the spring and communicated more were more likely to sustain that organization over time. It is not obvious why number of years in current job was negatively predictive of clear structure in the fall. One possibility is that those in stable jobs were used to working within a particular, already defined structure at their place of work and had difficulty with the task of creating a new structure on their team.

- Lack of clarity was predicted by team direction/structure in the spring (β=-.622, p=.000), number of years in current job position (β=.264, p=.001), and job independence at baseline (β=-.182, p=.019).[30] Team belonging in the spring fell just out of statistical significance as an additional predictor with a negative influence on lack of clarity. These results are consistent with the regression for clear structure above, but add a variable – job independence – which may afford further insight. Findings from the evaluation of the second cohort in Illinois indicated participants with more independent jobs may have had an easier time applying the creativity needed to organize and spur the work of their team. Even though job independence does not show up as predictive of clear structure in ILEAD USA, its negative association with the lack of clarity factor (the opposite of clear structure) seems at least roughly consistent with what was found for the second cohort.

[24] Clear structure consists of the following items: roles on team are very clear (α=.696), there is a clear team leader (α=.538), assigned to tasks commensurate with knowledge and skills (α=.764), team had good map of each other's talents and skills (α=.548), follow a very structured work schedule (α=.582), team goal specified very clearly (α=.526), team comes up with innovative ways of proceeding (α=.523).
[25] Lack of clarity consisted of the following items: team members do not know what skills/knowledge each possess (α=.712), goals and priorities are not clear enough (α=.836), team has difficulty carrying out plans (α=.666).
[26] Identification with team consisted of the following items: team goal of great consequence (α=.418, would feel guilty if left team now (α=.838), have sense of obligation to team (α=.866), members have to depend heavily on one another (α=.661), team has great deal of personal meaning (α=.607).
[27] Lack of cohesion consists of the following items: do not feel strong sense of belonging to team (α=.683), members are too dissimilar to work together well (α=.537), conflicting priorities exist (α=.747), differences handled privately (α=.582).
[28] Team capability consists of the following items: team does not have broad enough range of experiences and perspectives (α=-.577), team has more than enough talent (α=.784), team has nearly ideal mix of members (α=.516), some members lack knowledge and skills needed (α=-.652), available information is more than adequate (α=.499), everyone on team has special skills needed (α=.799).
[29] The regression incorporating these variables explained 62 percent of the variance in the clear structure factor.
[30] The regression incorporating these variables explained 59 percent of the variance in the lack of clarity factor.

- Identification with team was predicted by a factor combining importance of goals and belonging for both the participant and the team in the spring (β=.555, p=.000).[31] The factor combining goals and belonging from the spring survey indicates that for participants belonging was likely more than just a function of social relationships; it was also wrapped up with what the team was trying to accomplish from early on. This, then, in turn appeared to shape later identification with the team. A factor combining all of the "clarity" items from the spring fell just out of statistical significance in predicting identification in the fall.

- Lack of cohesion (in a sense the opposite of identification) was predicted by team direction/structure in the spring (β=-.802, p=.000) and a factor combining all of the "clarity" items from the spring (β=.421, p=.028).[32] A team that had clear direction and a sound structure in the spring was less likely to suffer from problems of belonging and conflict on the team in the fall. Note that team belonging in the spring did not predict belonging or cohesion in the fall. Rather, it was getting the work organized early on that seemed to conduce to having fewer problems with relationships on the team subsequently. At first blush, this interpretation seems contradicted by the second predictor, with perception of the team being clear about its work in the spring positively predicting lack of cohesion by the fall. A possible explanation is that some teams may have worked too hard in the early stages to clarify the work, pushing conflicts among members below the surface, conflict which emerged later in some loss of cohesion.

- Team capability was predicted by team direction/structure in the spring (β=.237, p=.001), a factor combining the importance of goals and belonging in the spring (β=.385, p=.000), and mean length of time participants had known other members of the team before ILEAD (β=.288, p=.003).[33] Teams that got relatively well-organized in the spring and inspired identification with and through the team goal were more likely to be perceived as capable by the fall. This perception of competence was also evidently facilitated by members having known each other longer.

None of the measures of learning and use of content from the in-person training programs either predicted team functioning through the fall or were predicted by either team variables or baseline items. This was not the case, however, when results from the final survey were analyzed, and will be discussed in the next section.

Participants' Assessment of ILEAD USA

Participants were given a final survey to complete a couple of weeks after the conclusion of ILEAD USA. This survey asked "look back" questions about their team, their overall assessment of their ILEAD experience and of the supports provided (e.g., instructors, mentors, community representatives), and support for their participation from the library.

[31] The regression incorporating this variable and one other (which was not significant) explained 43 percent of the variance in the identification factor.
[32] The regression incorporating these variables explained 41 percent of the variance in the lack of cohesion factor.
[33] The regression incorporating these variables explained 38 percent of the variance in the team capability factor.

Final Evaluation of Team Functioning

Participants evaluated a series of survey items on team operations. Factor analysis indicated that these items could be grouped into two factors: team effectiveness and team cohesion.

Table 17: Team Effectiveness

Effective Team (median scores) 1 = Strongly agree, 7 = Strongly disagree	**ILEAD USA Final**	**Illinois Cohort 2 Final**	**Illinois Cohort 1 Final**
One of the most effective teams on which I have ever served.	3.0	2.5	3.0
Individual roles on team were very clear.	3.0	3.0	3.0
I would have chosen different team goal.	6.0	6.0	6.0
Members worked very hard to keep one another up to date.	2.0	2.0	2.0
Team did not maintain a high standard of work at all times.	6.0	6.0	6.0
Team was united in trying to reach its goal.	2.0	2.0	2.0
Everyone on team put forward same effort.	3.0	3.0	4.0
Goals and priorities clearly understood from early on.	3.0	2.0	3.0
Team followed a very structured work schedule.	4.0	5.0	3.5

The results for team effectiveness were largely consistent with findings from the first two cohorts in Illinois. Participants perceived their team as being unified and working hard and had a favorable view, although not strongly so, of team organization and effectiveness. There was more ambiguity and inconsistency in judgments about how structured the team work schedule was. Cohort two in Illinois took the position that their team work schedule was not that structured, while both ILEAD USA and the first cohort in Illinois responded that it was neither very structured nor the opposite.

Table 18: Team Cohesion

Team Cohesion (median scores) 1 = Strongly agree, 7 = Strongly disagree	**ILEAD USA Final**	**Illinois Cohort 2 Final**	**Illinois Cohort 1 Final**
Most important benefit of ILEAD are relationships I developed.	3.0	3.0	2.0
Team did not give me enough opportunities to contribute.	7.0	6.0	6.0
Felt other members would judge me on things I said.	6.0	6.0	6.0
Easy to ask other members for help.	2.0	1.5	1.5
Felt other members would think more positively of me if I agreed with them.	5.0	5.0	5.0

Liked working together with this team.	2.0	1.0	2.0

Participants in ILEAD USA gave positive ratings to items measuring the cohesion of their team. The pattern came close to replicating the pattern of responses to these items in the two previous Illinois cohorts.

Assessment of the ILEAD USA Experience

The final survey asked participants to judge the value they derived from their ILEAD experience and what they thought of the support they received from instructors, mentors, and team community representatives.

Table 19: Value of the Experience

Value of the ILEAD Experience (median scores) 1 = Strongly agree, 7 = Strongly disagree	**ILEAD USA Final**	**Illinois Cohort 2 Final**	**Illinois Cohort 1 Final**
Did not get as much out of ILEAD as I thought I would	6.0	6.0	5.5
One of the most enjoyable experiences of my career	3.0	2.0	2.0
One of the most useful experiences of my career.	2.0	2.0	3.0
Most important benefit is my increased ability to help library adapt to technological change.	4.0	3.0	2.0
Compared to other learning experiences, ranks among the best.	2.0	2.0	2.0

As before, results for value were consistent with the previous cohorts in Illinois, although with one notable exception. Overall, participants' judgment of the value to them was positive. The one interesting, partial exception was the rating of the most important benefit being an increased ability to help their library to adapt to technological change. This received a neutral response from ILEAD USA participants, while the response was more favorable in Illinois cohorts one and two. One possibility is that the environment for adapting to technological change varies across the participating states, limiting the effect ILEAD could have in states with less munificent environments. State environments were not measured directly, and the numbers of respondents were too small from all but Illinois, to test this proposition statistically. But there is some hint of it in the data.

Table 20: Ratings of Instructors

Ratings of Instructors (median scores) 1 = Strongly agree, 7 = Strongly disagree	**ILEAD USA Final**	**Illinois Cohort 2 Final**	**Illinois Cohort 1 Final**
Instructors, as a group, were outstanding.	2.0	2.0	1.0

Some instructors clearly better than others.	2.0	1.0	2.0
Quality of instruction we received could have been much better.	5.0	5.0	5.0
Without what we learned from instructors, our team could not have made as much progress.	3.0	1.0	1.0
Topics covered by instructors were exactly what team needed.	4.0	2.0	3.0
Instructor provided training that was well aligned with team goal.	3.0	3.0	2.0

ILEAD USA participants' evaluation of their instructors was mostly positive, although not as positive as these evaluations were in the first two Illinois cohorts. Assessments of instructor quality in general were favorable in ILEAD USA, as they were in Illinois previously. However, assessments of instructor value to the team were not as strong. In particular, ILEAD USA participants appeared to perceive their team accomplishments as less dependent on the training and information provided by instructors. Comments made in the space provided at the end of the final survey indicated that more than a few participants felt choices about training content were not driven enough by team project needs.

Table 21: Ratings of Mentors

Ratings of Mentors (median scores) 1 = Strongly agree, 7 = Strongly disagree	**ILEAD USA Final**	**Illinois Cohort 2 Final**	**Illinois Cohort 1 Final**
Team could not have gotten as far without help from mentor.	2.0	3.0	3.0
Mentor was always available when needed.	2.0	2.0	1.5
Quality of advice from mentor was uneven.	6.0	5.5	6.0
Mentor always knew what to do when team had problems.	2.0	2.5	2.0

While not identical, participants' ratings of their mentor were fairly consistent across the three ILEAD cohorts, and they were positive.

Table 22: Ratings of Community Representatives

Ratings of Community Representative Involvement (median scores) 1 = Strongly agree, 7 = Strongly disagree	**ILEAD USA Final**	**Illinois Cohort 2 Final**	**Illinois Cohort 1 Final**
Team's community representative(s) involved from the start.	3.0	3.0	3.0
Did not always make good use of community representative(s).	3.0	4.0	2.0
Community representative(s) were best possible people given team goal.	3.0	3.0	4.0

Community representative(s) got along very well with team.	2.0	2.0	3.0

In the first two cohorts in Illinois, participants reported that integrating community representatives into the work of the team was a bit of a challenge. Comments indicated that participants were often unclear how to use their community representatives. This pattern continued in ILEAD USA, although not quite as strongly as in Illinois previously.

Support from Library

Librarians could not participate in ILEAD USA unless their home library agreed to it, more or less. Further the stronger the support from their library, the more likely they would, it was assumed, find a hospitable environment for using what they learned.

Table 23: Support from Library

Support from Library (median scores) 1 = Strongly agree, 7 = Strongly disagree	**ILEAD USA Final**	**Illinois Cohort 2 Final**	**Illinois Cohort 1 Final**
Never felt that my participation got in the way of my other work.	4.0	4.0	3.5
My library gave me all that time I needed to participate.	2.0	2.0	1.5
My participation was well-known to my co-workers.	2.0	1.5	2.0
Not everyone in the library where I work was supportive of my participation.	6.0	6.0	5.0
My participation mattered more to me than library where I work.	5.0	3.5	3.0
My participation was more beneficial to me personally than professionally.	4.0	4.5	4.0

As before with the two cohorts in Illinois, ILEAD USA participants painted a split picture in their evaluation of support from their library. On one side of the picture, they felt supported by their library and by their co-workers. On the other side, they felt some tension between their job and their ILEAD participation and what they would be able to do with it. Also, with one of the survey items measuring "home" support, there was a clear difference between ILEAD USA and the earlier Illinois cohorts. ILEAD USA participants were much less likely to say that their participation matter more to them than to their library.

Influences on Factors in Final Survey

Factor analysis was used to reduce the items in the final survey to a set of factors measuring the outcomes of ILEAD USA. These factors include: effective team[34], cohesive team[35], value of experience[36], supported by library[37], benefit personal not professional[38], general value of instructors[39], team value of instructors[40], value of mentors, and value of community representatives. Variables and factors from the previous surveys were then tested in regressions to see if they predicted these outcomes.

- Effective team was predicted by lack of clarity in the fall (β=-.410, p=.000), lack of cohesion in the fall (β=-.198, p=.025)), clear structure in the fall (β=.254, p=.016), and having a specialized role on team in the spring (β=.154, p=.044).[41] Put simply, participants were more likely to deem their team to have been effective if it was well-organized and the members got along.

- Cohesive team was predicted by: lack of clarity in the fall (β=-.379, p=.001), identification with team in the fall (β=.252, p=.020), having a specialized role on team in the spring (β=.214, p=.026, and amount of time given to ILEAD in the spring (β=.184, p=.040).[42] These statistical relationships suggest that role specialization and commitment to the team (as measured by time) in the spring may have led to at least the perception of better clarity about direction and roles and stronger identification with the team in the fall, which contributed to a final impression of the team being "together."

- Value of experience was predicted by: team capability in the fall (β=.360, p=.000), average amount of learning from the second in-person program (β=.325, p=.001), team belonging in the spring

[34] Effective team consists of: one of most effective teams ever served on (α=.685), individual roles on team were very clear (α=.698), I would have chosen different goal (α=-.571), we worked very hard to keep one another up to date (α=.684), did not maintain high standard of work at all times (α=-.690), united in trying to reach goal (α=.727),everyone put in same effort (α=.713), goals and priorities understood from early on (α=.811), and team followed very structured work schedule (α=.810).

[35] Cohesive team consists of: most important benefit of ILEAD are the relationships I developed (α=.647), team did not give me enough opportunities to participate (α=-.760), felt that other members would judge me on things I said (α=-.765), easy to ask other members for help (α=.674), felt that others would think more positively of me if I agree with them (α=-.660),and liked working with this team (α=.677).

[36] Value of experience consists of: did not get as much from ILEAD as I thought I would (α=-.625), one of most enjoyable experiences of my career (α=.798), one of most useful experiences of my career (α=.837), most important benefit is increased ability to help library adapt to technological change (α=.711), and ranks among best learning experiences (α=.859).

[37] Supported by library consists of: never felt ILEAD got in the way of other work (α=.480), library gave me all the time I needed (α=.802, my participation was well-known to my co-workers (α=.734), and not everyone in my library was supportive (α=-.830).

[38] Benefit personal not professional consist of: my participation more beneficial to me personally (α=.868) and my participation matters more to me than to my library (α=.-.532).

[39] General value of instructors consists of: instructors as a group were outstanding (α=-.741), some instructors better than others (α=.826), and quality of instruction could have been much better (α=.733).

[40] Team value of instructors consists of: without instructors, team could not have made as much progress (α=.866), topics covered by instructors exactly what team needed (α=.858), and instructors provided training well aligned with team goal (α=.787).

[41] The regression incorporating these variables explained 74 percent of the variance in the effective team factor.

[42] The regression incorporating these variables explained 58 percent of the variance in the cohesive team factor.

(β=.300, p=.002), and average personal use of content from first in-person program (β=.221, p=.019).[43] This suggests that judgments of the overall value of ILEAD were affected by both team functioning factors and what individuals derived from seminal moments in their training. If participants identified with their team in the spring and extracted personal benefit from the first training, and then by the home stretch perceived their team to be competent and the second training to have been a good source of learning, then they were more likely to assess ILEAD positively.

- Supported by library was predicted by: extent to which ILEAD conflicted with other responsibilities in the fall (β=-.362, p=.002), job independence at baseline (β=.267, p=.007), and the factor representing the "clarity" items in the spring survey (β=.225, p=.045).[44] All of these variables suggest that being supported by one's library meant having the freedom to invest in ILEAD team success.

- Benefit personal not professional was predicted by: frequency of communication among team members prior to first training (β=-.359, p=.002). Number of years of experience as a librarian was negatively associated with this factor but fell just short of statistical significance. It may be that teams which started out communicating a lot were more likely to have members who came into ILEAD with a relatively strong sense of its potential value to them in their role as librarian.

- General value of instructors was predicted by: priority of ILEAD in the spring (β=.386, p=.024) and average amount of learning from the second training (β=-.382, p=.002).[45] This suggests that the second training was key in shaping the general view of instructor value.

- Team value of instructors was predicted by the importance of goals and belonging factor from the spring (β=.296, p=.012). The priority of ILEAD in the fall feel just outside of statistical significance.

- The value of mentors, which incorporated all of the survey items about mentors in a single factor, was predicted by Web 2.0 self-efficacy at baseline (β=-.245, p=.035). That is, participants who were more confident in their Web 2.0 abilities at the outset were more likely to not judge mentors as positively as those who less confidence. Comments in the final survey showed that some participants had concerns about mentors who did not appear to be particularly knowledgeable in Web 2.0 technologies.

- The value of community representatives, which incorporated all of the survey items about community representatives in a single factor, was predicted by: having an unspecialized role on the team in the spring (β=.241, p=.027), and team direction/structure in the spring (β=.334, p=.032).[46] Possibly, this means that teams which did not move quickly to create specialized roles for their members may have afforded more room for integration of community representatives.

[43] The regression incorporating these variables explained 61 percent of the variance in the value of experience factor.
[44] The regression incorporating these variables explained 43 percent of the variance in the supported by library factor.
[45] The regression incorporating these variables explained 26 percent of the variance in the general value of instructors factor.
[46] The regression incorporating these variables explained 27 percent of the variance in the value of community representatives factor.

Lastly, the final survey included a question about how much participants expected their library to benefit from the product of their team project over the next six months. This was regressed against all of the other variables in the full dataset (i.e., all surveys), several of which turned out to be predictive of expected benefit: average personal use of content from the second training (β=.777, p=.000), average learning of content from the second training (β=.565, p=.000), importance of goals and belonging in the fall (β=.394, p=.000), and length of time had known other members at baseline (β=-.196, p=.019).[47] It should also be noted that average team use of content from the second training was positively correlated with expected benefit, but it did not survive as significant in the regression analysis. The combination of members being more familiar with one another before ILEAD, a positive experience at the second training, and the continuing importance of the team goal and belonging to the team by the fall appeared to increase the perceived odds of a team product that would benefit a participants' home library.

Conclusions and Recommendations

ILEAD USA was as successful, essentially, as the second cohort in Illinois. In extending it to four other states and expanding it in Illinois, the model held up. Participants reported moderately healthy levels of learning, and their teams worked reasonably well. When 80 percent of participants agree that it was one of the best learning experiences of their career, something is working right. To be sure, the program was and is not perfect. Not everyone was fully satisfied, and there were missteps and glitches here and there. But, after three fairly thorough evaluations, it seems clear that ILEAD is offering value that librarians want and need.

While ILEAD USA must be deemed a success, it does raise a question, as did the first two cohorts in Illinois. The question has to do with whether ILEAD is a model designed to produce predictable changes in librarians' efficacy with Web 2.0 participatory technologies. The initial evaluation of the first Illinois cohort in Illinois was crafted based on the assumption that ILEAD would become something like a standardized curriculum. Thus, efficacy could be measured before the start of the program and after its conclusion to assess whether that curriculum was associated with improvements in participants' Web 2.0 abilities.

However, as things have turned out, ILEAD has never been a curriculum per se. Rather, it has been an evolving and often expanding menu of topics. Some of those topics have been chosen at the start of a program year, but many others have arisen subsequently to meet the emerging needs of teams and other considerations. As a result, there has been only a limited connection between the measure of Web 2.0 competence at the outset and the content then provided through training, rendering pre- and post-testing of learning problematic. It may be, and this seems quite plausible, that because Web 2.0 itself represents an ever-changing range of technological possibilities, it would be impractical to try to confine ILEAD to a relatively fixed curriculum. There is also the constraint imposed by initial differences in librarians' skills with Web 2.0, such that one curriculum would likely be unworkable.

What does all of this mean? A close reading of the findings from the evaluations suggests that ILEAD is not a training program in the strict sense of the term. Rather, it functions more as a catalyst for the development of a "community of practice" among librarians focused on the application of new communication technologies to the work of libraries. "Community of practice" is a term coined by Jean

[47] The regression incorporating these variables explained 52 percent of the variance in expected benefit.

Lave and Etienne Wenger in 1991 to represent the way in which people in the same field or line of work learn together.[48] Wenger provides a simple definition that resonates with common sense: "Communities of practice are groups of people who share a concern or passion for something they do and learn how to do it better as they interact regularly." [49] In a recent article, the concept is further elaborated to encompass members interacting with each other in formal and informal settings, sharing knowledge with each other, collaborating with each other to create new knowledge, and fostering the development of a shared-identity among members.[50]

Each of these characteristics has been evident in ILEAD, and more to the point, they have been manifest after the official program has concluded. Close to 70 percent of the participants in ILEAD USA agreed that the relationships they developed during the program was its most important benefit to them. Seventy percent also agreed in the final survey that the product of their team project would have a positive effect on their library during over the next six months. While it is not known for a fact which relationships have continued beyond a cohort or what they have entailed, there is certainly anecdotal evidence that continuing interactions have occurred.

This suggests that, if ILEAD is a catalyst for introducing librarians into a community of practice around Web 2.0, then the future of the program may lie in both sustaining this introduction (the program as we know it) and adding to it more intentional efforts to foster the network which is being further built by each cohort of participants. Identifying ILEAD as the stimulus for and sustainer of a community of practice would help to clarify its purpose. In comments that participants have made in surveys during each cohort, there has always been a tension between a majority who have regarded ILEAD as a great experience and a minority who have had their expectations not adequately met. The complaint of a large swath of the minority has been that they expected to get fairly intense training in the use of particular technologies and that did not happen. The other main complaint has had to do with the difficulties of teamwork.

In other words, a proportion of participants come into ILEAD thinking that it will be a bounded experience, when instead it is, in actuality, a gateway experience, the start of something. This could be conveyed more clearly by adding to the model ways in which connections and learning among participants could be continued after the formal training program ends. Rather than depicting it as an endeavor that lasts nine or so months, ILEAD could be characterized as an ongoing effort to build competence in using evolving technologies to enhance the impact of libraries. Training in particular technologies or methods begun during ILEAD could be continued and converted into more advanced versions subsequently. So, instead of participants thinking that they will get the "full story" during an ILEAD session, the session would be positioned very clearly as an introduction, with the possibility that deeper learning could occur down the road if there is enough interest among community of practice members.

To be sure, scarce resources limit the kinds of formal opportunities that can be provided. But, at least to some degree, this constraint can be eased through the natural workings of the community, as members interact online, through email, or in other informal ways to share what they are learning as they try out

[48] Lave, J. & Wenger, E. Situated Learning: Legitimate Peripheral Participation. Cambridge: Cambridge University Press, 1991.
[49] Wenger, E. *Communities of Practice: A Brief Introduction*. Wenger-trayner.com. 2012.
[50] Li, L.C., Grimshaw, J.M., Nielsen, C., Judd, M., Coyte, P.C., and Graham, I.D. (March, 2009). "Evolution of Wenger's Concept of Community of Practice," Implementation Science, Vol. 4, No. 11.

various Web 2.0 technologies. This, no doubt, already happens to some extent among the librarians who have gone through ILEAD. The Illinois State Library might further spur effort in this direction by urging instructors to cultivate ongoing interaction with participants who have shown a strong interest in their area of expertise. In other words, give encouragement to specific communities of practice that form around particular technologies (e.g., designing smart phone apps) or technological domains (e.g., using content management systems). If this were done online through a common web portal, ISL would have a way to keep track of activity and look for opportunities to further stimulate activity.

There is no hard science to recruit in developing communities of practice. The above suggestion is one way the challenge could be approached. Surely, many other ways are possible. The point is to recognize that ILEAD is actually creating, not librarians with particular skills, but librarians with an interest in continuing to develop and apply their skills with participatory methods in an ever-changing technological landscape.