

## MacArthur Assessing Learning Meeting #3: Summary and Highlights

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NOTE: This summary is more fully elaborated than those for the first two meetings because one aim of this meeting was to begin developing language for the final Report.

**Aims of the Report:** To provide leadership within the community in helping define good practice in assessment of learning in informal settings, to identify which methods may be most useful for assessing which kinds of learning outcomes, to provide examples and exemplars, and to make recommendations for future project assessments and needed research on assessment.

To this end, it was recommended that we *organize the literature review* and discussion by types of valued outcomes, and within outcomes by useful methods of documentation and assessment, with examples and citations

**New and promising approaches:** Data mining, machine learning analysis, richly instrumented spaces, tracking learning across programs and settings, collecting and sharing data about learners across programs, longitudinal assessment over periods of 5-10 years, digital storytelling as a mode of documentation, spatial tracking, agent-based modeling,

### Critiquing and Improving basic concepts:

**Learning:** Learning that matters is *learning that lasts, and learning that is mobilized across tasks and domains*; our notion of learning should include *social-emotional-identity development* as well as *know-how and know-who*; it should also include learning by groups and communities as well as by individuals [see CHART]

**Knowledge:** *knowledge that matters is knowing how* to take the next step, for which declarative knowledge is merely one subsidiary component and greatly over-emphasized in current assessment; *know-that* matters only insofar as it is mobilized as part of know-how; *know-how (cultural capital)* matters for career futures and social policy only when effectively combined with *know-who (social capital)*; the social networking aspects of knowledge are under-emphasized in current assessment

Know-how and other aspects of knowledge also need to be defined for groups and communities. *Groups and communities always know more*, collectively, than any individual member, and collective intelligence and problem-solving skills, creativity, and innovation are also generally superior to what individuals are capable of. Current models that declare what should be known by all citizens need to be re-examined in relation to a likely future in which the most difficult

tasks will be delegated to groups and ad hoc or enduring communities. The appropriate balance between in-depth knowledge and unique experience vs. common knowledge is shifting radically in an age of enhanced communication and social networking, but educational policies are not keeping pace.

**Assessment:** the production of knowledge useful for individuals, groups, and communities to improve practices toward valued goals; to be distinguished from **Evaluation**, judgments made regarding how well goals are being achieved and how valuable the totality of all outcomes is; **Documentation**, the collection of information useful for assessment; and **Research**, the production of knowledge useful for the design of activities and communities capable of reaching stated goals and with enhanced potential for producing valuable outcomes beyond the stated goals.

Assessment, Research, and Evaluation all build on Documentation, but may require different modes and foci of documentation. Assessment aims at improvement, Research aims knowledge useful for future design. *Outside evaluation* is an exercise of power and is often subverted by the resistance, resentment, and deception offered by individuals, groups, and communities in reaction against it.

**Engagement:** affective involvement in and commitment to an activity, goal, practice, group or community which enhances the quality and quantity of participation despite obstacles, setbacks, or frustrations; distinguished from **Enjoyment**, the positive feeling accompanying an activity that makes it worth doing for its own sake. Both are important aspects of learning and should be documented in assessment, while recognizing that negative feelings may also play a significant role in engagement and in learning.

**Agency:** A term that has different meanings when considered as actual effectiveness, as a disposition toward taking action, as a feeling of self-efficacy, and an aspect of one's identity as someone who can produce desired effects; all are task- and/or role- and domain- specific, also often group- or community-specific.

**Outcome:** an over-emphasized and often naïve attribution of a valued condition to some specific cause (e.g. an intervention). Rarely are valued learning goals the outcomes of discrete, identifiable causes. Moreover, conditions observed at some moment in time or over a short interval do not necessarily persist or ground further development. They are frequently transitory phenomena, artificially induced by the procedure used to "measure" them. We will try to use the term "outcome" to refer instead to *socially and personally valued, on-going processes which emerge in the milieu of some community and its activities*.

**Understanding Learning Communities** – in order to adequately document, assess, evaluate, and research them

Learning communities differ in their basic goals and values, strategies, organization for learning, and in the roles they make available for members and the new niches members may create for themselves in the community

Learning outcomes for individuals, groups, and communities must be documented, assessed, and evaluated relative to differing goals and values (e.g. those of individual participants, those the community considers appropriate to various roles, those of the group and community itself, and those of external communities, e.g. sponsoring organizations)

Learning goals for many communities focus on the drivers of learning more than on the learning of specific content; they aim to improve motivation, engagement, and enjoyment; to broaden areas of interest and expand zones of comfort; to improve skills of self-guided learning, sustained learning, and collaborative learning [see also under Possible Recommendations below]

Some communities and some roles may emphasize activities which participants already value and enjoy, while others may draw participants out of their comfort zones to expand their know-how and its range of mobilization

Informal learning communities often differ from school-based learning groups in terms of: age-mixing, flexible pacing, division of labor and goals according to role, unpredictable learning outcomes, self-guided learning, voluntary participation, and [see also Meeting 1 summary]

Some learning communities are organized in such a way that groups and the community as a whole learn and change over time, while others are mainly organized to facilitate only individual learning

### **Recognition Systems / Badges**

Badges were offered as a means of recognizing achievements (a) made in non-traditional settings, and (b) made in relation to kinds of know-how for which there may not be formal recognition systems. Badges used within communities, awarded by the community and its members, serve both to recognize achievement and to make those who have made achievements recognizable to others as potential sources of expertise and assistance. Badges can also help to define ladders of participation which indicate the learners the existence and nature of higher levels of skill.

The value of a badge depends on the reputation of the communities and procedures by which it is awarded. A recognition system must be integrated with a reputation system if it is to operate outside specialized communities.

Badges are an example of the crowd-sourcing of evaluation. Within a community, this mode of evaluation and recognition may implement community or group consensus, rather than an exercise of power, and so avoid some of the resistance-based invalidation of other forms of evaluation. But if a wide-scale system of endorsement of badges or badge awarders (e.g. by government authority) prefers its own criteria of value to those of the awarding communities, it could undermine the authenticity of badges as endogenous evaluations and trigger the same reactions and invalidation seen with traditional external power-based evaluations (e.g. grades, standardized testing). This could include badge-seeking without Engagement, Badge “inflation” lowering the perceived value and use value of badges, lowering of criteria for awarding a badge, efforts to obtain badges without durable, mobilizable learning, etc.

Reputation systems are also at risk of manipulation or degradation, as we see today with the relatively low standards for accreditation in the for-profit sector of higher education, the purchasing of institutions with already accredited programs, the likelihood of bribery, etc.

It is not clear what the likely effects on an open badges system would be if badges were awarded by for-profit institutions or organizations as a source of revenue. This should be a major concern.

### **Localized vs. Inter-operable Assessment and Documentation**

Some methods of documentation and procedures for assessment produce value insofar as they are designed specifically in relation to the goals and practices in a particular community. Other methods and procedures can be used equally well across different projects, and so support comparisons and generalizations. It is important to balance these approaches in relation to the goals of improvement and generalizable knowledge.

For example, a coding scheme to identify a particular category of events in a video archive documenting a project may either focus on types of events that are highly specific to that project and its goals and which may not be in evidence or be relevant to any other project; or it may try to focus on types of events that are very likely to occur across other projects and be relevant to a wide range of goals. It seems desirable to try to include both kinds of focus in assessment.

This example points up the balance between the goals of assessment (improvement) and the goals of research (knowledge relevant to future design). But the relation is not as simple as might be imagined. In-depth assessment of a project on its own terms may be of enormous value for research purposes insofar as it produces knowledge about how particular outcomes were achieved, what worked and what didn't, what was sustained over time and what got changed, etc. This knowledge *can potentially be combined* with similar knowledge from other projects to improve future designs, even if it was not itself set up for this purpose. Likewise, existing research-based generalizations *can be*

*localized* to serve the needs of assessment and improvement for particular projects (and in general they need to be localized to be effective).

### **Possible Recommendations**

Assessments should report on both individual and group or community outcomes, and with regard to improvements in know-how, know-who, engagement, enjoyment, and agency as well as social, emotional, identity, and organizational development

Assessments should report on changes and processes over periods from hours to years as well as on final or time-of-assessment outcomes

All projects should include someone experienced in professional assessment from the earliest possible stages of project design and implementation  
Assessors should periodically visit projects other than the one for which they are primarily responsible and confer with other assessors to improve methods of documentation and assessment

Clusters of assessors visiting one another's project should report on what they learned as a group about improving assessment and documentation

Efforts should be supported to increase the numbers of well-trained assessors, e.g. by funding internships with projects, assessors, and clusters of experienced assessors

The quality of assessment should be judged by the extent of its value for improvement of the community studied in achieving its own goals, its actual or likely potential contributions to improving the design of future learning communities, and its usefulness for making evaluative decisions regarding how well it is achieving its stated goals and whether it is deserving of continued support based on the totality of outcomes

Assessments based on participant-created products should report on the quality of the product by appropriate professional and developmental standards and on the improvement in quality over the time of participation

Badges or other recognition should be awarded not just for achievement but for helping others to make similar or related achievements

Research should be supported to identify effective methods of documenting mobility of learning; i.e. the extent to which learners apply learning to diverse tasks across a range of domains, activities, communities. Range of mobilization is a key outcome measure of learning activities and requires collecting data beyond the setting and tasks in which the learning initially occurred or developed.

Assessment should focus not just on learning outcomes but also on the affordances and supportive and stimulating resources for learning that an environment, community, or project provides.

Among the valuable learning outcomes for participants are:

- Increased know-how and know-who
- Persistence and resilience in the face of obstacles, setbacks, and frustration
- Improved ability to successfully guide one's own learning
- Improved ability to complete tasks cooperatively with others
- Production of improved and high-quality products
- Increased sense of agency in a domain
- Increased comfort with participation in a task or domain
- Improved ability to assess the credibility of claims and sources
- Assisting others to achieve valued learning outcomes
- Widened range of mobilization of learning across tasks, domains, settings
- Increased emotional maturity and productive use of affective sensibilities
- Continued development and application of learning over several years or more

Many of these are also relevant for learning by groups and communities, but research should be supported to determine appropriate definitions and markers of group and community ethos, supportiveness, collaborative effectiveness, organizational efficiency, critical reflectiveness, iterative self-examination and change processes, and organizational sustainability.