Integration of Information Literacy in the Undergraduate Curriculum

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Many libraries ask me to talk about how to integrate information literacy in the undergraduate curriculum.

But it’s too narrow—not just about integration in the CURRICULUM—… the curriculum is restricted to what happens inside the classroom through academic programming—not always linked to co-curricular.
Some places do talk about the broader issue of developing a campus wide information literacy agenda – but I still think it's too narrow – because — not just about info lit -- information literacy learning outcomes cannot be independently developed – they overlap with related intellectual and practical skills that also need to be integrated across the curriculum – and for which there needs to be campus wide agendas – e.g. critical thinking, oral and written communication

And actually its also more than about an agenda – it’s about culture shift
So this is what I am going to talk about: education reform movements – and how libraries can play a leadership role on their campus to help them succeed -- how information literacy is part of it – but sometimes we have to see it – make the connections – help others to see it – I am going to share what the trends are for curricular strategies - and how strategies for engaging students include not only a desire for an outcomes based approach – but also high impact educational practices that often straddle co-curricular.

Most important – that you see the connections – and have the language to initiate or participate in the conversations… I am going to explain how we have shared ownership for the learning outcomes (which of course relates directly to assessment) – and most important - how libraries, librarians, library staff can be leaders in developing the campus conversations and coordinating a campus wide focus on undergraduate education.
The higher education initiatives that you should all know about address the interconnected parts of a framework for student learning.

They focus on what the student should know when they leave us — content knowledge, skills and abilities, behaviors and attitudes. (I use the essential learning outcomes from AAC&U — but many other programs use similar language – they all focus on articulated learning outcomes)

also about how the foundation for student learning is engagement -- engaging students in their educational experience in three important ways. Motivating students through the content of the curriculum- engaging in the big questions — “both contemporary and enduring”. How they are inspired and engaged through learning strategies designed to encourage each student’s own passion and curiosity – teaching methods that are student centered – research based – rooted in real life. Teaching methods that require students to navigate within the world of information as critical explorers..regardless of the topic or the discipline... And then the importance of engaging students to take steps for their own development through experiences available external to the curriculum – but intentionally linked to it.

This image is a reminder of the complex framework for learning that extends far beyond the content of the course. And that single column or even two – can support the end result ... Libraries have a role in all areas – in the curricular through course integration of learning outcomes – in the faculty – through helping faculty design assignments that place library collections at the heart of student learning – through the co-curricular – the real and virtual places we create for students to learn independently – or with us – outside of the classroom
I am going to share some details of these initiatives – so that we are all facile with the language.
I often start with Boyer – the date makes it important – 1998 - the fact that it focuses on research universities

--making recommendations to start with first year -- focus on beginning, middle, and end of curriculum path – link skills to course work…

Hold on to those recommendations – made 12 years ago… and I have been using this slide in various iterations that long…
Certain familiar qualities of mind and habits of thought may help resolve a wide range of problems... every student would benefit from acquiring them...

- recognize and define problems clearly
- identify the arguments and interests on all sides of an issue
- gather relevant facts and appreciate their relevance
- perceive as many plausible solutions as possible
- exercise good judgment in choosing the best of these alternatives after considering the evidence and using inference, analogy, and other forms of ordinary reasoning to test the cogency of the arguments


2006 – derek Bok – President emeritus Harvard…

I like this statement – looks like he is describing information literacy… of course the phrase is never used – that’s what I mean by making the connections.. Using their language…
Liberal Education and America’s Promise (LEAP)

...the kinds of learning that will truly empower them to succeed and make a difference in the 21st century...

*College Learning for the New Global Century*
*http://www.aacu.org/leap/documents/GlobalCentury_final.pdf*

I am going to focus on LEAP initiative – included strong representation from business and government as well as from higher education
What was interesting about AACU’s LEAP work was that it blended liberal education with workforce – this early project from them influenced their work -- commission a workforce study - and they used the results to inform their LEAP report…
63% of employers agree that “too many recent college graduates do not have the skills to be successful in today’s global economy.”

In general what they heard was…
But what might be of most interest to us in libraries – is the response about information literacy

This bar graph shows the % of employers who said that colleges should place more emphasis on that learning outcome..

Workforce wants to see a set of learning outcomes that are at the heart of a liberal education – critical thinking – written/oral communication – information literacy – want it framed in real world application
About Inquiry Learning…

The foundations for inquiry, investigation, and discovery should be laid early and reinforced... through inquiry projects, students should learn how to find and evaluate evidence, how to consider and assess competing interpretations, how to form and test their own analyses and interpretations, how to solve problems, and how to communicate persuasively.

LEAP also underscores the importance of inquiry and research based learning -- and the associated skills and abilities - also reflected earlier in Boyer’s report – and very important language for information literacy…
These are the I and p skills in LEAP … because they explicitly reference information literacy in all their publications.

It doesn’t matter what we call the learning outcomes – or how we cluster them.

Whether they are the I and p skills from LEAP
Or what are referred to as integrated skills at some institutions – like Washington State.
Or a phrase I just heard recently from some Australian colleagues – they have an office for the development of these skills – in and out of curriculum – called academic skills…
Or what is sometimes called this – particularly by the literacy communities…

There is a great deal of overlap between info lit and these other I and p skills – oftentimes if you were to ask me to apply one of these labels on a specific outcome – I would be hard pressed to do so..

Very important for you to understand because we waste too much time on our campuses chasing red herrings – you want info lit – he wants critical thinking – she wants oral and written communication -- who is talking about inquiry learning… when really – if we moved away from the label and started talking about the learning outcomes – we are talking about very similar things…
For Example

a. information literacy
b. critical thinking
c. communication

Here is an activity I often use with faculty and on campuses -- the point is to underscore the irrelevance of the label – and help faculty to focus on the learning outcomes – not the labels for them… provides opportunity for you to respond to those who say – --interested in critical thinking (not info lit) – or written or oral communication – we need to help focus on the learning outcomes – not the label for them… and guess what?

There is a set of detailed learning outcomes we can refer them to… ours!

Here is what I do…

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Consider for a moment outcomes in these three areas… I am going to flash learning outcomes from sources in one of these three areas… and I want to know if you think it is

A – info lit
B – critical thinking

Or c – communication
The student…

assesses the quality and relevance of evidence, including: spotting deception and holes in the arguments of others

From Collegiate Learning Assessment - Common Scoring Rubric – Part 1 Critical thinking, analytic reasoning and problem solving

a. information literacy  b. critical thinking  c. communication

Is this a or b or c

Hands?????
The student…

articulates and applies criteria for evaluating both the information and its sources, including: analyzes the structure and logic of supporting arguments or methods; recognizes prejudice, deception, or manipulation

From *Information Literacy Competency Standards for Higher Education*, Standard 3, performance indicator 2

- a. information literacy
- b. critical thinking
- c. communication
The student…

organizes the content in a manner that supports the purposes and format of the product

From *Information Literacy Competency Standards for Higher Education*, Standard 3, performance indicator 2

a. information literacy  b. critical thinking  c. communication
The student…

*presents evidence in an order that contributes to a persuasive and coherent argument*

From Collegiate Learning Assessment - Common Scoring Rubric – Part 2 Written Communication

a. information literacy  b. critical thinking  c. communication
• develops a thesis statement and formulates questions…
• identifies the value and differences of potential resources…
• selects the most appropriate investigative methods…
• constructs and implements effectively designed search strategies…
• articulates and applies criteria for evaluating information and sources…
• summarizes main ideas, synthesizes to construct new concepts, compares new knowledge with prior…
• applies new and prior information to the planning and creation of a product
• follows laws, regulations, policies, etiquette… acknowledges sources when communicating product…

These are a few of the 122 learning outcomes that are part of info lit competency standards for higher education…

And as you can see – there is substantial inclusion of critical thinking, problem solving, and communication in information literacy.
• Extract key information efficiently in print and online using text features and search techniques.
• Gather the information needed to build an argument, provide an explanation, or address a research question.
• Synthesize information from multiple relevant sources, including graphics and quantitative information when appropriate, to provide an accurate picture of that information.
• Evaluate the reasoning and rhetoric that support an argument or explanation, including assessing whether the evidence provided is relevant and sufficient.
• Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism.
• Make strategic use of multimedia elements and visual displays of data to gain audience attention and enhance understanding.

Core Standards: writing

National Governors Association
It’s irrelevant what you call them – The first and most important step is to define them – specifically

We all want students who are critical thinkers – but what precisely do we mean by that – what do the outcomes specifically look like – in measurable ways… the devil is in the details –

But guess what – we can help – Libraries HAVE articulated learning outcomes –… Here are some examples from just the information literacy standards…

there was a day when we had 160 faculty in a ballroom at tables with librarians and other stakeholders - doing activities designed by librarians and other colleagues – for faculty to write specific learning outcomes… that’s how we started our own campus process…

Oftentimes the process of articulating the learning outcomes for the institution is the most important part of the process – information literacy standards provide a framework – but it is very important for each institution to have a process of articulating those learning outcomes for their own students… to have that ownership
Common Elements

- require articulation of specific learning outcomes
- reflect higher order and lower order cognitive skills
- require application within and across disciplines
- developmental (sequenced over time)
- supported through curriculum content, instructional design, and co-curricular activities
- assessed by demonstration of what students can DO

When you look at these specific skills and abilities - they have some common elements

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All need to be embedded in the curriculum – starting in the first year – and continuing across disciplines - beginning middle end of curriculum… not JUST about info lit – about the entire set of “intellectual and practical skills” – inquiry – problem solving etc..
The interesting thing about this proposal is that this set of learning outcomes is important for ALL graduates – and they cannot be learned in a single course in the core -- this model provides an opportunity for expanding these important learning outcomes into the majors and into professional education

The proposed model shows a pathway for students that starts with a first year experience course that can wrap the learning outcomes with specific content as developed by the colleges

These learning outcomes are reinforced through a second year experience – and intentionally embedded in a “milestone” course – the required core course in a major – and ultimately demonstrated through a culminating experience...

The model also clarifies expectations for our students

Proposes structure for transfer students
Four major new elements (in the form of courses):
We need to talk ownership – and again – I am modeling a way to have this conversation with others on campus – I have actually used these slides at a deans meeting – and with faculty and librarians in a room together…

The outcomes range from simple to complex on Bloom’s taxonomy of cognitive processes..

Important because of implications for assessing them
Manipulates digital text, images, and data, as needed, transferring them from their original locations and formats to a new context

organizes the content in a manner that supports the purposes and format of the product

Another example – related to technology
Responsibility for Assessment

- Course
- Institution
- Library

- E-portfolio or standardized
- Authentic Assessment
- Performance Based
- Senior project or capstone
- Information Literacy
- Library Instruction
- Major
So I have talked about the learning outcomes and assessing them – but remember that temple – its not just about the outcomes – but also about the creation of the learning experiences – how curriculum is structured and how we teach..

This is a list of practices identified through Project DEEP – part of NSSE

Students who engage in these experiences have a direct correlation to improved learning – the more the better – in other words – 3 practices better than 2… and guess what – greater gains for statistically at risk students…

All these activities contribute to improving that foundation of student engagement as well…

We need to know the literature – the research – so we can have the conversations to promote these practicies and participate in their development… several of these also referenced in Boyer
Research shows:

- Specific educational experiences lead to greater student retention and academic achievement
- Under-represented groups show greater academic achievement
- Data shows the effectiveness of FYE courses

Positive effects on student engagement and retention

What are the practices? Appendix III of long version and GETF website has detailed description for each

First year seminars
Common intellectual experiences
Learning Communities
Writing intensive courses
Collaborative assignments and projects
Undergraduate research
Diversity/Global learning
Service learning
Internships
Capstone courses or projects
The Libraries Role in the Reinvention of Undergraduate Education

So many ways we can help the university meet its educational mission – not just support – but take a leadership role..

I have done it – in three orgs now

I have helped my staff do it – in three orgs now

Many many benefits – first – budget – aligned with academic mission – when going gets tough – hold on to teaching – we are integral part of it

Tell you what is happening – why its important to our universities – how we are uniquely positioned to help them succeed
This ed role requires a culture shift within libraries – even though admit that we don’t want to be repositories for materials – passive places where users have to come – where we focus on collecting and archiving and providing tools for people to access – we still do it! Preoccupation on institutional repositories – digital preservation – shared print collections – infrastructure for data archiving – nothing wrong – just not exclusive…

And focus on user – here is where I get the most controversial – we have redefined ourselves as service organizations – nothing wrong with that – but service is not necessarily congruent with education – often at odds – give them what they want or what they need – turn ourselves into doormats and wonder why we have trouble being partners…

Connections model rooted in discovery – on self sufficient users – on educated lifelong learners..

From Collections to Connections to Discovery:-- place libraries at the center of student learning

Why do we need to do it? It turns stagnant collections – unused collections – into vital resources for learning
It keeps the library critical – central – and aligned with ed mission – instruction mission – which is what gets protected in bad busget times
It justifies expenditures in resources – influences the pipeline to ensure that collections are used by helping faculty place them at the core of the curriculum.
What it is that we are doing? Let’s go back to the education frame.

Developing a campus wide agenda means involving the libraries in all the parts – first – participating in the development of the learning outcomes for the campus and ensuring that they are embedded in the first year – middle – and end

--participating in faculty development

--intentional about our co-curricular contributions
Senior Administrators
message, culture, Deans, Department Chairs

Heads of Resource Units
planning - leveraging resources - setting expectations
- providing support for staff - rewarding staff

Expert Staff -- between and with faculty
-other campus partners -- respect - learn - support - improved product...

How is it going to happen?

First – it has got to happen at all levels in the organization – first talk I ever gave at a Loex meeting – 25 years ago – and I am still saying it – partnerships between line librarians and faculty are great -- and if you are very good at it you will get total course change – if less than – that a one shot…

But for curriculum change – you need relationships at all levels of the organization – and you need a vision – a plan – a common message
Strategies for Influencing the Campus Culture

1. Get a seat at the table – or make a new table
2. Identify potential partners
3. Leverage resources – experts and funding
4. Gather and use evidence

Help campus initiative succeed

Give you a few ideas from my own experience..
1. Get a Seat at the Table

*Instructional innovation has often been the result of efforts by individual faculty entrepreneurs. The Mellon project allows us to expand that strength by linking faculty with librarians, instructional technologists, assessment experts, graduate student instructors — all of the partners who together can have a greater impact on student learning than each can alone.*

..........Christina Maslach  
Vice Provost for Undergraduate Education  
University of California, Berkeley  


1. Get a seat at the table – or make a new table --- Berkeley didn’t have a core or gen ed – that’s where we want to be first…

First got a seat – WASC review – “culture of teaching”  - then made a table..

7 years ago I wrote and managed two grant projects totaling $888,000 from the Mellon Foundation to restructure gateway and large impact courses at UC Berkeley – to ensure that research-based, inquiry learning was part of the experience. WHY the Library? Because we invest hundreds of millions of dollars in our libraries to collect or license materials – and if they are not used to advance student learning – then we may as well save the money… I made the table

But our librarians on gen ed committees – need to step up to their role – take lead – often know more about these issues – at FIU – accreditation review – led to info lit in curriculum – approved by senate..
And you don’t always need money – although it helps

You can just make the table.. Invite others with whom you want to partner – to minimally share – coordinate – and then collaborate..

FIU – from place as dept head – with head of teaching center – invited in instructional technology – and then at UCB – created CAP –

After 1 year at UNLV as Dean I created the first – which morphed into the second..


Kicked off gen ed retreat – held 4 all campus meetings on various aspects of ed reform …
2. Identify partners

We frequently see partnerships develop between librarians, IT, and instructor for course redesign -- as a matter of fact - Mellon awarded millions of dollars to regional consortia of liberal arts colleges to foster partnerships between librarians and IT and instructor - to develop info lit - or info fluency.. …
Relationship I have always advocated - where I started - because the focus is on pedagogy - not technology - is with the teaching Center- they are excellent partners for course and assignment redesign -- syllabus development - and experimentation with teaching strategies
Some partnership models are extremely inclusive, seeking out and including any unit on campus that participates in the faculty development mission -- varies with each campus - but could include units or experts involved in faculty development, such as…focus of support is still Instructors - units coordinate activities to greater and lesser degrees… - some level of partnership - mutually supportive - minimally they refer a lot..

We started here at Berkeley when we did course redesign through Mellon – and we are doing this now at UNLV… but this is still a model of silos --
This is the hardest model – but the one I advocate for – and strive to create – doing it now on a new project.. I shared this at the opening keynote for the POD conference – they loved it – 5 years ago and center directors still tell me it changed the way they think

- focus is not the instructor - but the course.. and the instructor works with experts from various campus units to reinvent the course.

In this model, experts cannot and are not limited by the organizational structure.

Most important is the need for cross silo communication and team building - to present a consistent message as the course is redesigned…

So we knew we wanted to create cross silo teams to work with the instructor on course redesign - but we learned that we couldn’t just throw people together and call them a team - tell them to collaborate - they needed to develop respect for each other - what skills and backgrounds each has and what each brings

--- often the planning group learns this at their level of collaboration – but when we put our staffs together we have to help facilitate this understanding… training – ongoing communication structures – did at Berkeley – doing now as we establish the Faculty Collaboratory
Sample Objectives for Faculty Development

Facilitate development of competent student research

Fine tune your syllabus to integrate research based assignment

Guide your students in developing independent research projects that incorporate relevant library materials

Quickly and easily evaluate whether students are learning what you teach

Identify effective research-based assignments that are easily managed with large numbers of students

Use technology to improve student learning

This is the kind of reform you can do together – these are the outcomes from a Faculty Institute on research Based Learning in high impact courses --- from UNLV – libraries initiated – found campus partners – got the funding - $60k from library donors.. –

Could never do this alone – we COULD – but we shouldn’t…

Successful beyond our imagination…
The ALA has taken the lead in establishing coalitions to address the information literacy imperative.

3. Leverage Experts and Resources

- Populate campus initiatives
- Reassign even…
- Partner on faculty grants – or create your own
- Offer spaces

Get staff on campus committees – fac senate committees – reassignment (teaching center – provost office – etc ) – or through position designation – at berkeley – one person half time partner with TA training center – and assessment librarian that is about more than libqqual…

Started with a half – now have full time – and a pro – recent grad – just doing testing assessment..

Can do it through mini grants to encourage collaboration and course redesign…

Faculty collaboratory – not a real estate deal – but a true collaboration…
We are good at data collection and analysis – we know that students aren’t performing as well as they could or should – anyone who works on a ref desk knows it… we need to collect evidence – any way we can… portfolios..

Formal – iCritical thinking…

Informal – URAP program – student pub at berkeley – or poster sessions on campus… provide input into judging their product..
The ALA has taken the lead in establishing coalitions to address the information literacy imperative.

Final point is about libraries contributions through co-curricular learning – what I call the other foot – only unit on campus that functions in all three columns of that education frame – only one slide for it or else I’d be here all day – I actually do another talk about the pedagogy of place – and another on libraries as laboratories of learning.

– we know this side well… but I want to underscore some things we do – and think about how you message the ones YOU do…
Berkeley
Hook = undergrad research
Event was institute
Structure to sustain was teams – cross silo – focused on course redesign
Culture shift was through cohorts of change agents – intentionally identified and supported in their role – faculty to faculty…

UNLV
Hook was cut to pti budgets – larger classes
Event was institute
Structure to sustain was library partnerships - changed the dynamic of the relationship
Culture shift – cohort of change agents – committed to teaching a different way..

What the hook at VTU?

All roads lead to faculty development…
In Sum

• Speak the language
• Identify partners
• Help the campus initiative succeed
• Lead conversations about articulating specific learning outcomes
• Participate actively in faculty development
• Create diagnostic, interim, and capstone assessments to collect evidence
• Share the vision – communicate a common message
• Remember its about systemic sustained change

*All roads lead to faculty development*

I am not special.

When I look out into this audience I see a room of campus leaders – we just need to learn to speak their language and bring the rest of our skills and abilities to bear on the issue-- we need to rethink our roles and develop the professional confidence to realize the expertise that we have and that we can bring. Embrace the strengths that makes us librarians.

They make us special on our campuses