

美国高等教育信息素养能力标准

美国高等教育信息素养能力标准

Information Literacy Competency Standards for Higher Education

美国图书馆协会（The Association of College and Research Libraries）

美国大学和研究型图书馆协会（A division of the American Library Association）

翻译：白健

目录（Index）：

信息素养定义（Information Literacy Defined）

信息素养和信息技术（Information Literacy and Information Technology）

信息素养和高等教育（Information Literacy and Higher Education）

信息素养和教学（Information Literacy and Pedagogy）

标准的使用（Use of the Standards）

信息素养及其评估（Information Literacy and Assessment）

标准，表现指标和成果（Standards, Performance Indicators and Outcomes）

附录一 节选信息素养动态（Appendix I: Selected Information Literacy Initiatives）

信息素养能力标准的撰写人（Developers of the Information Literacy Competency Standards）

一、信息素养定义（Information Literacy Defined）

信息素养是指个人“能认识到何时需要信息，和有效地搜索、评估和使用所需信息的能力。”信息素养在当代科技迅速发展和信息资源极其丰富的环境下变得越来越重要。由于环境变得愈渐复杂，个人在学习、工作和生活中面临着多样化的，丰富的信息选择。信息可以来自图书馆、社区、行会、媒体和互联网。越来越多的未经过滤的信息的出现使得它们失去了真实性，正确性和可靠性。另外，个人很难理解和评估以图片、声像和文本的形式存在的信息。信息的不可靠性和不断增加的数量对社会形成威胁。如果缺乏有效利用信息的能力，大量信息本身并不能使大众从中汲取知识。

Information literacy is a set of abilities requiring individuals to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.” Information literacy also is increasingly important in the contemporary environment of rapid technological change and proliferating information resources. Because of the escalating complexity of this environment, individuals are faced with diverse, abundant information choices—in their academic studies, in the workplace, and in their personal lives. Information is available through libraries, community resources, special interest

organizations, media, and the Internet—and increasingly, information comes to individuals in unfiltered formats, raising questions about its authenticity, validity, and reliability. In addition, information is available through multiple media, including graphical, aural, and textual, and these pose new challenges for individuals in evaluating and understanding it. The uncertain quality and expanding quantity of information pose large challenges for society. The sheer abundance of information will not in itself create a more informed citizenry without a complementary cluster of abilities necessary to use information effectively.

信息素养为一生学习奠定基础。它适用于各个学科、各种学习环境和教育水平。它可以让学习者掌握内容，扩展研究的范围，有更多主动性和自主性。有信息素养的人应能做到以下几点：

- ☆ 决定所需信息的范围。
- ☆ 有效地获取所需信息。
- ☆ 严格评价信息及其相关资源。
- ☆ 把所选信息融合到个人的知识库中。
- ☆ 有效运用信息达到特定目的。
- ☆ 运用信息同时了解所涉及的经济、法律和社会范畴，合法和合理地获得和利用信息。

Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning. An information literate individual is able to:

- ☆ Determine the extent of information needed
- ☆ Access the needed information effectively and efficiently
- ☆ Evaluate information and its sources critically
- ☆ Incorporate selected information into one's knowledge base
- ☆ Use information effectively to accomplish a specific purpose
- ☆ Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally

延伸阅读：

今天你 search 了没有？

提问的智慧

二、信息素养和信息技术 (Information Literacy and Information Technology)

信息素养与运用信息技术的技能有关，但对个人、教育系统和社会而言，却又有着更广的内

涵。信息技术的技能使个人通过对电脑、软件、数据库和其他技术的运用,从而实现各种各样学术性的、工作上的或个人的目标。具备信息素养的个人必然需要发展一些信息技术的技能。

Information literacy is related to information technology skills, but has broader implications for the individual, the educational system, and for society.

Information technology skills enable an individual to use computers, software applications, databases, and other technologies to achieve a wide variety of academic, work-related, and personal goals. Information literate individuals necessarily develop some technology skills.

信息素养,虽然与信息技术的技能之间表现出显著的重叠性,但却与之有区别而且是范围更为广泛的能力。信息技术的技能会越来越的与信息素养交织并支持它。一份来自 1999 年的国家研究院的报告提倡信息技术中的“熟练”的概念并描述了信息素养,计算机素养和更广泛的技术能力之间的几个显著区别。这份报告注解的计算机素养指的是死记硬背具体的硬件和软件的运用,然而“熟练地运用技术”则强调理解技术的基本概念,以及把解决问题和判断思维运用到技术中。这份报告也讨论了信息技术的熟练性和中小学教育及高等教育所理解的信息素养的区别。概括这些区别就是信息素养强调内容、交流、分析、信息搜索和评估;而信息技术的“熟练性”则强调对技术的深入了解从而获得越来越多的应用技能。

Information literacy, while showing significant overlap with information technology skills, is a distinct and broader area of competence. Increasingly, information technology skills are interwoven with, and support, information literacy. A 1999 report from the National Research Council promotes the concept of “fluency” with information technology and delineates several distinctions useful in understanding relationships among information literacy, computer literacy, and broader technological competence. The report notes that “computer literacy” is concerned with rote learning of specific hardware and software applications, while “fluency with technology” focuses on understanding the underlying concepts of technology and applying problem-solving and critical thinking to using technology. The report also discusses differences between information technology fluency and information literacy as it is understood in K-12 and higher education. Among these are information literacy’s focus on content, communication, analysis, information searching, and evaluation; whereas information technology “fluency” focuses on a deep understanding of technology and graduated, increasingly skilled use of it.

能够“熟练”地运用信息技术比计算机素养指的死记硬背具体的硬件和软件的运用要求更多的智力,但仍是侧重于技术。从另一方面讲,信息素养是理解、搜索、评估和使用信息的智

能框架。虽然这些活动可以部分通过熟练掌握信息技术，部分通过正确的研究方法完成，但最重要的是通过判断思维和推理完成。通过会利用技术而又独立于技术的能力，有信息素养的人启动、维持和延伸毕生的学习。

“Fluency” with information technology may require more intellectual abilities than the rote learning of software and hardware associated with “computer literacy”, but the focus is still on the technology itself. Information literacy, on the other hand, is an intellectual framework for understanding, finding, evaluating, and using information—activities which may be accomplished in part by fluency with information technology, in part by sound investigative methods, but most important, through critical discernment and reasoning. Information literacy initiates, sustains, and extends lifelong learning through abilities which may use technologies but are ultimately independent of them.

延伸阅读：

Google 搜索从入门到精通 v4.0

三、信息素养和高等教育（**Information Literacy and Higher Education**）

培养毕生的学习习惯是高等教育的主要目标。通过培养个人推理和批判的能力，通过帮助他们建立学习方法的框架，高等院校为他们将来在事业上继续发展，做有知识的公民和社区成员奠定基础。信息素养是毕生学习的重要组成部分。信息素养能力把学习延伸到课堂之外，在个人开始实习，接受第一个职位，在生活中担负更多的责任的过程中得到练习。由于信息素养提高了学生评价，管理和使用信息的能力，几个地区性和学科性的认证组织把信息素养作为大学生教育的关键成果。

Developing lifelong learners is central to the mission of higher education institutions. By ensuring that individuals have the intellectual abilities of reasoning and critical thinking, and by helping them construct a framework for learning how to learn, colleges and universities provide the foundation for continued growth throughout their careers, as well as in their roles as informed citizens and members of communities. Information literacy is a key component of, and contributor to, lifelong learning. Information literacy competency extends learning beyond formal classroom settings and provides practice with self-directed investigations as individuals move into internships, first professional positions, and increasing responsibilities in all arenas of life. Because information literacy augments students’ competency with evaluating, managing, and using information, it is now considered by several regional and discipline-based accreditation associations as a key outcome for college students.

不在传统校园的学生可以通过网络和其他渠道使用信息资源。分布教学技术容许在不同地点和时间的学生和教师之间进行教学。通过远程教育增进信息素养的难处在于培养与在传统校园类似的对信息资源的学习经验。远程教育学生应具有和在校学生同样水平的信息素养。

For students not on traditional campuses, information resources are often available through networks and other channels, and distributed learning technologies permit teaching and learning to occur when the teacher and the student are not in the same place at the same time. The challenge for those promoting information literacy in distance education courses is to develop a comparable range of experiences in learning about information resources as are offered on traditional campuses. Information literacy competencies for distance learning students should be comparable to those for "on campus" students.

把信息素养融合到大学课程、学科与服务和管理中要求教员，图书管理员和学校领导之间的协作。教员通过讲课和引导讨论创造学习环境。他们也会鼓励学生探索未知世界，指导学生满足信息需要，并且观察学生的进展。大学图书馆员协调智力资源的评估和挑选；整理和维护图书馆馆藏并提供多种信息搜索工具；教授学生和教员信息搜索的技巧。学校领导应为这种协作和所有启动信息素养课程的人员培训和发展创造条件，筹划和维持信息素养课程。

Incorporating information literacy across curricula, in all programs and services, and throughout the administrative life of the university, requires the collaborative efforts of faculty, librarians, and administrators. Through lectures and by leading discussions, faculty establish the context for learning. Faculty also inspire students to explore the unknown, offer guidance on how best to fulfill information needs, and monitor students' progress. Academic librarians coordinate the evaluation and selection of intellectual resources for programs and services; organize, and maintain collections and many points of access to information; and provide instruction to students and faculty who seek information. Administrators create opportunities for collaboration and staff development among faculty, librarians, and other professionals who initiate information literacy programs, lead in planning and budgeting for those programs, and provide ongoing resources to sustain them.

四、信息素养和教学（**Information Literacy and Pedagogy**）

波伊尔委员会报告《重整本科生教育》建议了一些策略，可令学生积极“构思一个或一系列问题，积极地研究和有创造性地寻找答案，并具备阐述结果的交流能力。”在此基础上构造的课程创造了一个以学生为中心的学习环境。在这个环境里，学生不断询问，培养解决问题的能力是重点，判断思维是重要组成部分。这样的学习环境要求学生有信息素养能力。

The Boyer Commission Report, *Reinventing Undergraduate Education*, recommends strategies that require the student to engage actively in “framing of a significant question or set of questions, the research or creative exploration to find answers, and the communications skills to convey the results...” Courses structured in such a way create student-centered learning environments where inquiry is the norm, problem solving becomes the focus, and thinking critically is part of the process. Such learning environments require information literacy competencies.

有了信息素养学生就会有更多自主学习的机会，因为他们可以利用多样的信息资源来扩充他们的知识，提出好的问题，增强判断思维能以应付进一步的自主学习。认识到信息素养不是附加到课程之上的，而是融入课程的内容、结构和顺序是掌握信息素养能力的基本要求。课程的融合可以增加以学生为中心的教学方法（诸如基于解决问题的学习，基于证据的学习和质询式的学习）的影响。在教员和其他有关人员的指导下，运用基于解决问题的学习方法的学生可以比只通过讲课和课本知识更深层次的思考上课内容。要想完全掌握基于问题的学习方法，学生必须经常使用能够使他们得以熟练使用来自不同地点和格式的信息来源的思考技巧，从而增强他们对学习的责任感。

Gaining skills in information literacy multiplies the opportunities for students' self-directed learning, as they become engaged in using a wide variety of information sources to expand their knowledge, ask informed questions, and sharpen their critical thinking for still further self-directed learning. Achieving competency in information literacy requires an understanding that this cluster of abilities is not extraneous to the curriculum but is woven into the curriculum's content, structure, and sequence. This curricular integration also affords many possibilities for furthering the influence and impact of such student-centered teaching methods as problem-based learning, evidence-based learning, and inquiry learning. Guided by faculty and others in problem-based approaches, students reason about course content at a deeper level than is possible through the exclusive use of lectures and textbooks. To take fullest advantage of problem-based learning, students must often use thinking skills requiring them to become skilled users of information sources in many locations and formats, thereby increasing their responsibility for their own learning.

个人可以通过很多途径来获得他们要寻求的信息。第一种途径是利用信息检索系统。这种检索系统可以在图书馆里找到，或是可以在任何地方通过电脑访问的数据库里找到。另一种途径是运用一种合适的研究方法来直接观察现象。例如，医生、考古学家和宇航员经常利用物理实验来检测某种现象的存在。除此之外，数学家、化学家和物理学家经常运用像统计软

件或模拟器这样的技术来创造人为的环境用于观察和分析现象之间的作用。在学生的本科和研究生阶段，他们必须多次地查询，评估和管理从不同来源和运用不同学科性的研究方法所收集到的信息。

To obtain the information they seek for their investigations, individuals have many options. One is to utilize an information retrieval system, such as may be found in a library or in databases accessible by computer from any location. Another option is to select an appropriate investigative method for observing phenomena directly. For example, physicians, archae-ologists, and astronomers frequently depend upon physical examination to detect the presence of particular phenomena. In addition, mathematicians, chemists, and physicists often utilize technologies such as statistical soft-ware or simulators to create artificial conditions in which to observe and analyze the interaction of phenomena. As students progress through their undergraduate years and graduate programs, they need to have repeated opportunities for seeking, evaluating, and managing information gathered from multiple sources and discipline-specific research methods.

相关教程下载：

信息素养与高校教师专业化

五、标准的使用（**Use of the Standards**）

《美国高等教育信息素养能力标准》为评估信息素养提供了一个框架。它延伸了美国学校图书管理员协会信息素养标准工作组的成果，为高等教育提供了与中小学一样能列出信息素养能力的机会，从而使得各个年级的学生有相应的标准。以下列出的能力标准是教员，图书管理员和其他有关人员确定可以证明学生具有信息素养的指标。学生也会发现能力标准很有用处，因为它为学生提供了一个指导他们决定怎样处理信息的框架。这会促使学生感到培养超认知的学习方法的需要，让他们认识到收集、分析和使用信息所需的明确的行动。所有的学生必须表现出这个标准中描述的能力，但每个人的能力会有高低快慢之分。

Information Literacy Competency Standards for Higher Education provides a framework for assessing the information literate individual. It also extends the work of the American Association of School Librarians Task Force on Information Literacy Standards, thereby providing higher educa-tion an opportunity to articulate its information literacy competencies with those of K-12 so that a continuum of expectations develops for students at all levels. The competencies presented here outline the process by which faculty, librarians and others pinpoint specific indicators that identify a student as information literate. Students also will find the competencies useful, because they provide

students with a framework for gaining control over how they interact with information in their environment. It will help to sensitize them to the need to develop a metacognitive approach to learning, making them conscious of the explicit actions required for gathering, analyzing, and using information. All students are expected to demonstrate all of the competencies described in this document, but not everyone will demonstrate them to the same level of proficiency or at the same speed.

另外，一些学科会在这个过程的某些环节强调对某些能力的掌握，因此在任何衡量机制下一些能力会比别的能力占更多的比重。因为每个标准都要求学生总结经验教训，回到上一步，修改搜索信息的方法，然后重复同样的步骤，许多能力会被多次使用。

Furthermore, some disciplines may place greater emphasis on the mastery of competencies at certain points in the process, and therefore certain competencies would receive greater weight than others in any rubric for measurement. Many of the competencies are likely to be performed recursively, in that the reflective and evaluative aspects included within each standard will require the student to return to an earlier point in the process, revise the information-seeking approach, and repeat the same steps.

为了完全实现这些标准，一个机构应首先根据它的宗旨和教学目标决定信息素养会怎样改进学习和提高机构的效果。对教师员工进行培训是促使他们接受这个概念的关键。

To implement the standards fully, an institution should first review its mission and educational goals to determine how information literacy would improve learning and enhance the institution's effectiveness. To facilitate acceptance of the concept, faculty and staff development is also crucial.

六、信息素养及其评估（**Information Literacy and Assessment**）

以下的能力中包括五个标准和二十二个表现指标。这些标准侧重于各个水平高等教育学生的需要。这些标准列出一系列的成果来评估学生在培养信息素养上取得的进展。这些成果为教师和图书管理员根据各个机构不同情况制定衡量学生学习方法是提供了指导准则。除了衡量学生基本信息素养，教师和图书管理员应一起拟定适用于不同学科的评估方法和策略，因为在这些领域中信息素养在知识创造、学术活动和出版过程有明显的作用。

In the following competencies, there are five standards and twenty-two performance indicators. The standards focus upon the needs of students in higher education at all levels. The standards also list a range of outcomes for assessing student progress toward information literacy. These outcomes serve

as guidelines for faculty, librarians, and others in developing local methods for measuring student learning in the context of an institution's unique mission. In addition to assessing all students' basic information literacy skills, faculty and librarians should also work together to develop assessment instruments and strategies in the context of particular disciplines, as information literacy manifests itself in the specific understanding of the knowledge creation, scholarly activity, and publication processes found in those disciplines.

在执行这些标准的过程中,这些机构应认识到不同水平的思考能力是与不同的学习成果相对应的。因此,不同的方法和策略在评估这些成果中起决定性作用。例如,布鲁姆的《教育目标分类学》中的“高级”和“低级”思考能力在这个标准的成果指标中充分体现出来。我们强烈认为对适合于每种成果相关联的思考能力的评估标准应成为一个机构实施计划不可缺少的一部分。

In implementing these standards, institutions need to recognize that different levels of thinking skills are associated with various learning outcomes—and therefore different instruments or methods are essential to assess those outcomes. For example, both “higher order” and “lower order” thinking skills, based on Bloom's Taxonomy of Educational Objectives, are evident throughout the outcomes detailed in this document. It is strongly suggested that assessment methods appropriate to the thinking skills associated with each outcome be identified as an integral part of the institution's implementation plan.

例如,以下成果解释了“高级”和“低级”思考能力:

“低级”思考能力:

成果 二.二.2. 找出与所需信息的关键词、同义词和相关词。

“高级”思考能力:

成果 三.三.2. 扩展初步分析,在更高抽象层次上建立新的假设。新的假设可能需要更多的信息。

For example, the following outcomes illustrate “higher order” and “lower order” thinking skills:

“Lower Order” thinking skill:

Outcome 2.2.a. Identifies keywords, synonyms, and related terms for the information needed.

“Higher Order” thinking skill:

Outcome 3.3.b. Extends initial synthesis, when possible, to a higher level of abstraction to construct new hypotheses that may require additional information.

教师、图书管理员和其他人会发现相互协作讨论评估标准对策划系统的，全面的信息素养教育方案是非常有用的练习。这个评估方案应推广到每个学生，找出需要改进的地方，巩固现有的学习成果。评估方案也应让机构所在的民众了解信息素养对培养高素质的学生和公民的贡献。

Faculty, librarians, and others will find that discussing assessment methods collaboratively is a very productive exercise in planning a systematic, comprehensive information literacy program. This assessment program should reach all students, pinpoint areas for further program development, and consolidate learning goals already achieved. It also should make explicit to the institution's constituencies how information literacy contributes to producing educated students and citizens.

我想买原文书

七、标准，表现指标和成果（**Standards, Performance Indicators and Outcomes**）

标准一：有信息素养的学生有能力决定所需信息的性质和范围。

Standard One: The information literate student determines the nature and extent of the information needed.

表现指标（**Performance Indicators**）

一 有信息素养的学生定义和描述信息需求。成果包括：

1. 通过与老师交流，参与课堂讨论、学习小组、网上论坛来确定研究课题和所需信息。
2. 草拟一个主题，根据信息需求列出相关问题。
3. 通过浏览广泛的信息来源来熟悉课题。
4. 限定或修改信息需求以抓住重点。
5. 确定可以描述信息需求的概念和术语。
6. 认识到现有信息可以结合原有的想法、试验和/或分析来产生新的信息。

1. The information literate student defines and articulates the need for information.

Outcomes Include:

- a. Confers with instructors and participates in class discussions, peer workgroups, and electronic discussions to identify a research topic, or other information need
- b. Develops a thesis statement and formulates questions based on the information need

- c. Explores general information sources to increase familiarity with the topic
- d. Defines or modifies the information need to achieve a manageable focus
- e. Identifies key concepts and terms that describe the information need
- f. Recognizes that existing information can be combined with original thought, experimentation, and/or analysis to produce new information

二 有信息素养的学生可以找到多种类型和格式的信息来源。

成果包括：

- 1. 了解信息是怎样正式或非正式地产生、组织和散布的。
- 2. 认识到把知识按学科分类可以影响获取的信息方式。
- 3. 找出以多种格式（例如多媒体、数据库、网页、数据、声像和书籍）存在的潜在资源的价值和不同之处。
- 4. 找出潜在资源的目的和用户， 例如大众化的或是学术性的，当代的或历史性的。
- 5. 区分主要来源和次要来源， 并认识到他们在不同学科有不同的用处和重要性。
- 6. 认识到信息有时要从主要来源的原始数据综合而来。

2. The information literate student identifies a variety of types and formats of potential sources for information.

Outcomes Include:

- a. Knows how information is formally and informally produced, organized, and disseminated
- b. Recognizes that knowledge can be organized into disciplines that influence the way information is accessed
- c. Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/ visual, book)
- d. Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical)
- e. Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline
- f. Realizes that information may need to be constructed with raw data from primary sources

三 有信息素养的学生权衡获取信息的成本和收益。成果包括：

- 1. 决定所需信息是否存在，并根据情况扩大信息搜索范围（例如图书馆际互借，利用其它地方的资源，获得图片、音像和文本）。
- 2. 研究为了搜集所需信息和理解上下文而学习一种新的语言或技巧（例如外语或学科性的）的可行性。
- 3. 拟定一个现实的计划和时间表来获取所需信息。

3. The information literate student considers the costs and benefits of acquiring

the needed information.

- a. Determines the availability of needed information and makes decisions on broadening the information seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound)
- b. Considers the feasibility of acquiring a new language or skill (e.g., foreign or discipline-based) in order to gather needed information and to understand its context
- c. Defines a realistic overall plan and timeline to acquire the needed information

四 有信息素养的学生重新评估所需信息的性质和范围。成果包括：

1. 重新评估所需信息来澄清、修改和改进现有问题。
2. 描述用来做信息决策和选择的依据。

4. The information literate student reevaluates the nature and extent of the information need.

- a.Reviews the initial information need to clarify, revise, or refine the question
- b.Describes criteria used to make information decisions and choices

延伸阅读：

漫谈扩检与缩检

标准二：有信息素养的学生可以有效地获得需要的信息。

Standard Two: The information literate student accesses needed information effectively and efficiently.

表现指标：（**Performance Indicators**）

一 有信息素养的学生选择最适合的研究方法或信息检索系统来查找需要的信息。成果包括：

1. 确定几种适宜的研究方法（例如实验、模拟和实地调查）。
2. 研究不同研究方法的好处和适用性。
3. 研究信息检索系统的规模、内容和组织。
4. 挑选可以有效从研究方法或信息检索系统获取所需信息的方法。

1.The information literate student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.

- a.Identifies appropriate investigative methods (e.g., laboratory experiment, simulation, fieldwork)
- b.Investigates benefits and applicability of various investigative methods
- c.Investigates the scope, content, and organization of information retrieval

systems

d.Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system

二 有信息素养的学生构思和实现有效的搜索策略。成果包括：

1. 草拟一个与研究方法相符的研究计划。
2. 确定所需信息的关键字、同义词和相关术语。
3. 挑选适用于学科或信息检索来源的控制性词汇。
4. 运用恰当的信息检索命令构建搜索策略（例如对搜索引擎要用逻辑算子、截断舍位、接近性；对书籍要用索引）。
5. 在不同的信息检索系统中实现这个搜索策略。这些信息检索系统拥有不同用户界面和搜索引擎和使用不同的命令语言、协议和搜索参数。
6. 用适合于学科的研究方法实现搜索。

2. The information literate student constructs and implements effectively-designed search strategies.

- a.Develops a research plan appropriate to the investigative method
- b.Identifies keywords, synonyms and related terms for the information needed
- c.Selects controlled vocabulary specific to the discipline or information retrieval source
- d.Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books)
- e.Implements the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters
- f.Implements the search using investigative protocols appropriate to the discipline

三 有信息素养的学生运用各种各样的方法从网上或亲自获取信息。成果包括：

1. 运用不同的信息检索系统检索格式不同的信息。
2. 运用不同的分类法和其它系统（例如图书编目号码或索引）在图书馆查找信息资源或确定要亲自去查找的地点。
3. 利用所在机构的专业化的网上或面对面的服务来获取信息（例如图书馆际互借、文件交付、专业组织、研究机构、社区资源、专家和行家）。
4. 运用调查、写信、采访和其它的查询方式来获取主要的信息。

3. The information literate student retrieves information online or in person using a variety of methods.

- a.Uses various search systems to retrieve information in a variety of formats

- b. Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration
- c. Uses specialized online or in person services available at the institution to retrieve information needed (e.g., interlibrary loan/document delivery, professional associations, institutional research offices, community resources, experts and practitioners)
- d. Uses surveys, letters, interviews, and other forms of inquiry to retrieve primary information

四 有信息素养的学生改进现有的搜索策略。

成果包括：

1. 评估搜索结果的数量，质量和相关性来决定是否应该运用其他的信息检索系统或研究方法。
2. 找出现有信息的不足之处， 然后决定是否应该修改现有的搜索策略。
3. 运用改进后的搜索策略重复以前的搜索。

4. The information literate student refines the search strategy if necessary.

Outcomes Include:

- a. Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized
- b. Identifies gaps in the information retrieved and determines if the search strategy should be revised
- c. Repeats the search using the revised strategy as necessary

五 有信息素养的学生摘录，记录和管理信息和它的出处。

1. 在不同的技术中挑选最合适于析取所需信息的技术（例如复制/粘贴软件、复印机、扫描仪、声像设备或探索仪器）。
2. 建立一个信息组织系统。
3. 区分引用出处的类型，熟悉不同出处的引用的组成部分和正确语法
4. 记录所有相关的引用出处以备将来参考。
5. 运用不同的技术来管理经过挑选和整理的信息。

5. The information literate student extracts, records, and manages the information and its sources.

- a. Selects among various technologies the most appropriate one for the task of extracting the needed information (e.g., copy/paste software functions, photocopier, scanner, audio/visual equipment, or exploratory instruments)
- b. Creates a system for organizing the information

- c.Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resources
- d.Records all pertinent citation information for future reference
- e.Uses various technologies to manage the information selected and organized

延伸阅读：

如何有效搜索利用网络上的幻灯资源

标准三：有信息素养的学生评估信息和它的出处，然后把挑选的信息融合到他（她）们的知识库和价值体系。

Standard Three: The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

表现指标：（**Performance Indicators**）

一 有信息素养的学生从收集到的信息中总结要点。成果包括：

1. 阅读原文，汲取要点。
2. 用他（她）们自己的语言重述原文思想，然后准确挑选数据。
3. 确定适合于引用的文字。

1.The information literate student summarizes the main ideas to be extracted from the information gathered.

Outcomes Include:

- a.Reads the text and selects main ideas
- b.Restates textual concepts in his/her own words and selects data accurately
- c.Identifies verbatim material that can be then appropriately quoted

二 有信息素养的学生清晰表达并运用初步的标准来评估信息和它的出处。成果包括：

1. 检查和对比来自不同出处的信息旨在评估信息的可靠性、准确性、正确性、权威性、时间性、观点或偏见。
2. 分析论点或论证方法的结构和逻辑。
3. 找出偏见，欺诈和篡改。
4. 找出信息产生时的文化的、物质的或其它背景信息，并认识到上下文对诠释信息的影响。

2.The information literate student articulates and applies initial criteria for evaluating both the information and its sources.

- a.Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias

- b.Analyzes the structure and logic of supporting arguments or methods
- c.Recognizes prejudice, deception, or manipulation
- d.Recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information

三 有信息素养的学生综合主要思想来构建新概念。成果包括：

1. 认识到概念之间的相关性，初步把它们组合成有论据支持的语句。
2. 如果可能，扩展初步分析，在更高抽象层次上建立新的假设。新的假设可能需要更多的信息。
3. 运用计算机和其它技术（例如电子表格、数据库、多媒体和声像设备）来研究新概念和其它现象的相互作用。

3.The information literate student synthesizes main ideas to construct new concepts.

- a.Recognizes interrelationships among concepts and combines them into potentially useful primary statements with supporting evidence
- b.Extends initial synthesis, when possible, at a higher level of abstraction to construct new hypotheses that may require additional information
- c.Utilizes computer and other technologies (e.g. spreadsheets, databases, multimedia, and audio or visual equipment) for studying the interaction of ideas and other phenomena

四 有信息素养的学生，通过对比新旧知识来判断信息是否增值,或是否前后矛盾，是否独具特色。成果包括：

1. 确定信息是否满足研究或其它信息需要。
2. 运用有意识地选择的标准来决定信息是否抵触或证实来自其它出处的信息。
3. 在总结所收集的信息的基础上得出结论。
4. 运用适合学科的方法（例如模拟器和实验）来检验现有的理论。
5. 通过质疑数据来源，信息收集工具和策略的不足以及结论的合理性决定大概的准确度。
6. 把以前的信息和知识和新信息融合起来。
7. 选择可以为主题提供论据的信息。

4.The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

- a.Determines whether information satisfies the research or other information need
- b.Uses consciously selected criteria to determine whether the information contradicts or verifies information used from other sources

- c.Draws conclusions based upon information gathered
- d.Tests theories with discipline-appropriate techniques (e.g., simulations, experiments)
- e.Determines probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions
- f.Integrates new information with previous information or knowledge
- g.Selects information that provides evidence for the topic

五 有信息素养的学生决定新的知识对个人的价值体系是否有影响，并采取措施消除分歧。成果包括：

1. 研究在文献中遇到的不同观点。
2. 决定是否接受或摒弃新的观点。

5.The information literate student determines whether the new knowledge has an impact on the individual's value system and takes steps to reconcile differences.

- a.Investigates differing viewpoints encountered in the literature
- b.Determines whether to incorporate or reject viewpoints encountered

六 有信息素养的学生通过与其他人、学科专家和\或行家的讨论来验证对信息的诠释和理解。成果包括：

1. 参与课堂和其它讨论。
2. 参与以鼓励有关课程的主题讨论为目的的电子论坛(例如电子邮件、电子公告、聊天室)。
3. 通过多种机制(例如采访、电子邮件、电子邮件清单)征求专家意见。

6.The information literate student validates understanding and interpretation of the information through discourse with other individuals, subject-area experts, and/or practitioners.

- a.Participates in classroom and other discussions
- b.Participates in class-sponsored electronic communication forums designed to encourage discourse on the topic (e.g., e-mail, bulletin boards, chat rooms)
- c.Seeks expert opinion through a variety of mechanisms (e.g., interviews, e-mail, listservs)

七 有信息素养的学生决定是否应该修改现有的查询。成果包括：

1. 决定信息是否满足原先的需求，还是需要更多的信息。
2. 评估搜索策略，适当地融合其它的概念。
3. 评估现有的信息检索出处，如果需要可以包括其它信息来源。

7.The information literate student determines whether the initial query should be revised.

a.Determines if original information need has been satisfied or if additional information is needed

b.Reviews search strategy and incorporates additional concepts as necessary

c.Reviews information retrieval sources used and expands to include others as needed

延伸阅读：

搜索结果的评价

标准四：不管个人还是作为一个团体的成员，有信息素养的学生能够有效的利用信息来实现特定的目的。

Standard Four: The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

表现指标：（**Performance Indicators**）

一 有信息素养的学生能够把新旧信息应用到策划和创造某种产品或功能中。成果包括：

1. 重新组织信息使得它能支持产品或功能的用途和样式（例如提纲、草稿、摘要）。
2. 清晰明白地说明以往经验中可以帮助策划和创造某种产品或功能的知识和技巧。
3. 融合新旧信息，包括引用和直译，使得它能支持产品或功能的用途。
4. 如有需要，修改电子文本、图像和数据的位置和格式，使得它们适合新的上下文。

1.The information literate student applies new and prior information to the planning and creation of a particular product or performance.

a.Organizes the content in a manner that supports the purposes and format of the product or performance (e.g. outlines, drafts, storyboards)

b.Articulates knowledge and skills transferred from prior experiences to planning and creating the product or performance

c.Integrates the new and prior information, including quotations and paraphrasings, in a manner that supports the purposes of the product or performance

d.Manipulates digital text, images, and data, as needed, transferring them from their original locations and formats to a new context

二 有信息素养的学生修改产品或功能的开发步骤。成果包括：

1. 把与信息查询，评估和传播过程有关的活动载入日志。
2. 总结以往的经验，教训和其它可以选择的策略。

2.The information literate student revises the development process for the product or performance.

a.Maintains a journal or log of activities related to the information seeking, evaluating, and communicating process

b.Reflects on past successes, failures, and alternative strategies

三 有信息素养的学生能够有效地与别人就产品或功能进行交流。成果包括：

1. 选择最适合产品或性能和受众的通讯媒体和形式。
2. 运用一系列的信息技术应用软件来创造产品或功能。
3. 结合设计和传播的原理。
4. 采用一种最适合受众的风格与别人清楚地交流。

3.The information literate student communicates the product or performance effectively to others.

a.Chooses a communication medium and format that best supports the purposes of the product or performance and the intended audience

b.Uses a range of information technology applications in creating the product or performance

c.Incorporates principles of design and communication

d.Communicates clearly and with a style that supports the purposes of the intended audience

延伸阅读：

一段文字与对的反思！

标准五：有信息素养的学生熟悉许多与信息使用有关的经济、法律和社会问题，并能合理合法的获取信息。

Standard Five: The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

表现指标：（**Performance Indicators**）

一 有信息素养的学生了解与信息和技术有关的伦理、法律和社会经济问题。成果包括：

1. 找出并讨论印刷和电子出版环境中与隐私和安全相关的问题。
2. 找出并讨论与免费和收费信息相关的问题。
3. 找出并讨论与审查制度和言论自由相关的问题。
4. 显示出对知识产权、版权和合理使用受专利权保护的资料的认识。

- 1.The information literate student understands many of the ethical, legal and socio-economic issues surrounding information and information technology.
 - a.Identifies and discusses issues related to privacy and security in both the print and electronic environments
 - b.Identifies and discusses issues related to free vs. fee-based access to information
 - c.Identifies and discusses issues related to censorship and freedom of speech
 - d.Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material

二 有信息素养的学生遵守与获取和使用信息资源相关的法律、规定、机构性政策和礼节。成果包括：

1. 按照公认的惯例（例如网上礼仪）参与网上讨论。
2. 使用经核准的密码和其它的身份证来获取信息资源。
3. 按规章制度获取信息资源。
4. 保持信息资源、设备、系统和设施的完整性。
5. 合法的获取、存储和散布文字、数据、图像或声音。
6. 了解什么构成抄袭，不能把他人的作品作为自己的。
7. 了解与人体试验研究有关的规章制度。

- 2.The information literate student follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.
 - a.Participates in electronic discussions following accepted practices (e.g. “Netiquette”)
 - b.Uses approved passwords and other forms of ID for access to information resources
 - c.Complies with institutional policies on access to information resources
 - d.Preserves the integrity of information resources, equipment, systems and facilities
 - e.Legally obtains, stores, and disseminates text, data, images, or sounds
 - f.Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own
 - g.Demonstrates an understanding of institutional policies related to human subjects research

三 有信息素养的学生在宣传产品或性能时声明引用信息的出处。成果包括：

1. 始终如一的使用一种适宜的引用格式。
2. 如有需要，使用受专利权保护的资料时要显示版权及免责声明。

- 3.The information literate student acknowledges the use of information sources

in communicating the product or performance.

a. Selects an appropriate documentation style and uses it consistently to cite sources

b. Posts permission granted notices, as needed, for copyrighted material