移 动 学 习

Mobile Learning（Part IV Learning Together P539）

移动学习　Mobile Learning

Since the dawn of humanity, people have learned outdoors while on the move. Now, mobile phones and tablet computers are enhancing this personal form of learning by connecting across time and space. In many developing countries, including most of sub-Saharan Africa,there is no fixed line communication infrastructure, so a wireless mobile device provides the first opportunity to access the Internet or even to hold a telephone conversation. In every country, children and adults increasingly have mobile access to Web resources.

自从人类出现，人们就开始在户外的活动中学习。现在，移动手机和平板电脑通过跨时空连接正在提高个人的学习形式。在许多发展中国家，包括撒哈拉以南的非洲，那里没有固话通信基础设施，因此无线移动设备提供了第一个机会来访问互联网，甚至举行电话会谈。在每一个国家，儿童和成人越来越多地拥有移动设备去访问网络资源。

移动学习　Mobile Learning

The modern era of mobile learning devices may be traced back to the 1970s and a team led by Alan Kay at the Xerox Palo Alto Research Center. The team members proposed a low-cost wireless handheld device named the Dynabook. Inspired by educational theories from Jerome Bruner and Seymour Papert, the Dynabook would support active involvement and interaction with dynamic simulations of physical systems, and allow learners to share their creative ideas.

近代的移动学习设备可能要追溯到1970年代，由Alan Kay领导的在施乐帕洛阿尔托研究中心的研究小组。该团队成员提出了一个低成本的名叫Dynabook的无线手持设备。受杰罗姆·布鲁纳和eymour Papert的教育理论的启发， Dynabook将支持与物理系统的动态模拟的积极参与和互动,并让学习者分享他们的创意。

移动学习　Mobile Learning

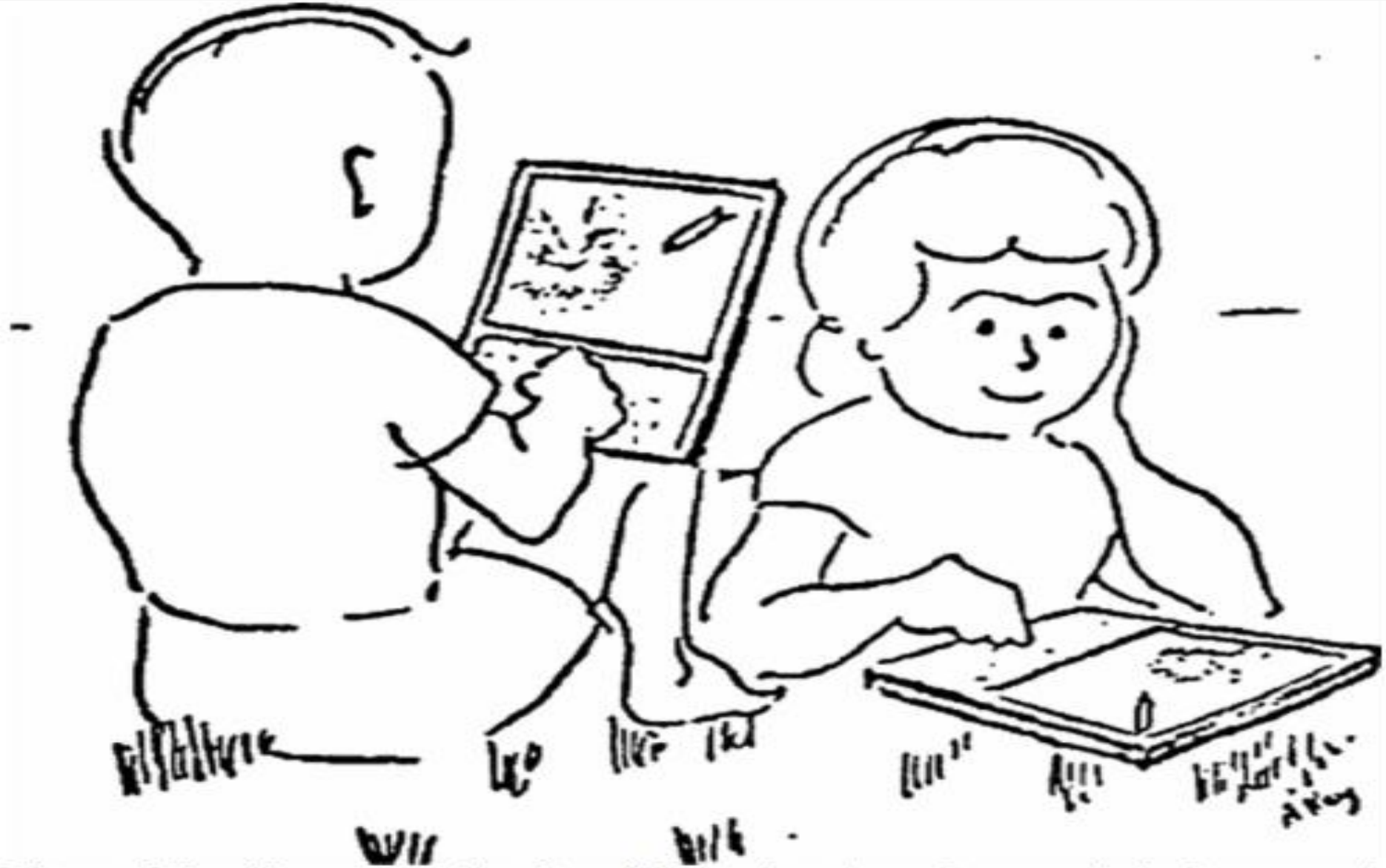


Figure 25.1. Illustration by Alan Kay of children learning outdoors on wirelessly connected tablet computers through shared simulation games (Kay, 1972).

移动学习　Mobile Learning

In the 1970s, technology was not sufficiently advanced to construct a working Dynabook. But four decades later, technology has caught up, through the widespread availability of low cost tablet computers and sophisticated mobile phones, all connected to the Internet. When well-designed educational software is installed, these networked handheld devices can provide interactive access to learning resources and support learning dialogues across widely differing settings and cultures.

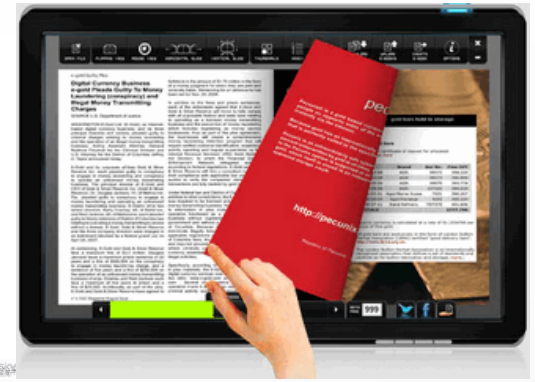
20世纪70年代，技术还没有足够先进去构建一个可工作的Dynabook。但四十年后，技术出现了，通过广泛利用低成本平板电脑和复杂的手机连接到互联网。当安装了设计良好的教育软件，这些网络手持设备可以提供交互式获取学习资源，支持跨文化背景的学习对话。

移动学习　Mobile Learning

Mobile learning is now moving beyond research and pilot projects towards large-scale applications. One recent initiative is English in Action (EIA): a nine-year project, since May 2008, to help 25 million people in Bangladesh improve their communicative English language skills. Another part of English in Action, BBC Janala, provides daily three-minute audio lessons on mobile phones to adults wishing to improve their English language skills.

移动学习正在超越研究和试点项目走向大规模应用发展。最近的一个项目是英语在行动(EIA)：一个九年的项目，2008年5月以来，帮助孟加拉国2500万人提高他们的英语交际能力。另一个英语在行动项目：BBC Janala，为成年人提供了基于移动手机的每日三分钟的音频课程，希望改善他们的英语语言技能。

移动学习　Mobile Learning



中国教育产业资本地图 by @谢晨星

蓝色为已上市公司，红色为Pre-IPO公司，绿色为值得关注的创业公司。

Seamless Learning （无缝学习：数字时代学习的新常态）

As children and adults come to possess networked mobile devices, networked learning extends beyond classrooms and homes to become part of everyday life, **blurring the boundaries between formal and informal** .Advocates of seamless learning propose that previously distinct experiences of learning (**in-class and out-of-class; academic and nonacademic; curricular and cocurricular; on-campus and off-campus**) should be bound together to seem continuous.

儿童和成人开始拥有网络移动设备、网络学习超出课堂和家庭成为日常生活的一部分，正式学习和非正式学习的界限变的模糊。无缝学习的倡导者建议先前的有区别的学习经验应该联系在一起（课堂和课外；学术和非学术；课程和辅助课程；校内和校外）。

Seamless （无缝） Mobile Learning

Seamless mobile learning provides a powerful vision. There are at least four reasons to suggest such learning would be more effective than traditional classroom instruction.

First, seamless learning is interwoven with other everyday activities .**Second**, in seamless learning, the control and management of learning is distributed. **Third**, seamless learning takes advantage of the fact that we are always *in a context*, situated in a location at a point in time surrounded by objects, persons, and resources, and at the same time we *create context* through interactions with our surroundings. **Fourth**, with well designed mobile applications, everyday natural interactions between people and their surroundings can be transformed into learning opportunities .

首先，无缝学习是与其他日常活动交织在一起。其次，在无缝学习中学习的控制和管理是分布式的。第三,无缝学习利用这样一个事实：我们总是在一定的情境下，包括物体、人和资源，同时，我们通过与周围环境的交互来创造情境；第四，通过精心设计的移动应用程序，人们和环境之间的日常交互可以转化为学习的机会。

Mobile Learning in Practice

Two primary motivations drive the increasing interest in mobile learning:

- The first is a desire to equip each student with a powerful individual device, as this could provide a customized and personalized learning experience, and we know **that students learn more effectively when they build on their own current understanding and make learning choices.**
- The second is an increasing recognition that in the 21st century, people must continue to learn throughout their lifetimes, as **knowledge advances and technologies rapidly change .**

第一个是希望为每位学生配备一个强大的个人设备，这可以提供一个定制的、个性化的学习经验，我们知道，当学生构建他们自己当前的理解和作出学习选择的时候，他们的学习更有效；第二个是我们越来越认识到，在21世纪人们必须不断地学习，因为知识更新和技术都在快速改变。

A Theory of Mobile Learning

移动学习的理论基础之一是境脉学习理论

- 境脉学习理论(Contextual Learning)认为，学习者自身原有的记忆、经验、动机和反应构成了一个完整的内部世界，学习者在处理新的信息或知识时，与其内部世界发生意义，这便是学习。境脉学习理论假定，大脑本能地在境脉(Context)中搜寻意义，即在学习者所处环境中搜寻所处理的新信息或新知识与其内部世界之间发生意义或看似有用的关系。**境脉学习理论强调学习者内部世界对于学习的重要性，重视对学习者现有知识结构、学习动机、学习兴趣的分析。**

Context and Learning

Sociocultural and situated perspectives have been influential in the learning sciences . In the sociocultural perspective, all learning is thought to be unavoidably embedded in a physical and social context, and sociocultural research attempts to identify how different contexts can both enrich and constrain learning. The sociocultural perspective is particularly important as we study mobile learning, because with these wireless handheld devices, learning can occur anywhere, in or out of class and with or without a teacher.

社会文化的和情境化的视角已经开始影响学习科学。从社会文化的角度来看，所有的学习都不可避免地被嵌入在物理和社会情境中，社会文化研究试图确定不同的情境如何丰富和限制学习。社会文化视角作为我们研究移动学习尤为重要，因为这些无线手持设备，学习可以在任何地方发生，课内或课外，有或没有一个老师。

Augmentation and Ubiquitous Learning

Today's mobile technologies support ubiquitous learning – learning anywhere, any time. Smartphones and tablet computers are powerful computers capable of guiding learning activities. They are also scientific toolkits, with embedded cameras, voice recorders, increasingly many sensors, and multimedia communications. Further, there are now technologies available that can support mobile learning even when students do not personally carry a mobile device. For example, a building can be augmented with sensors that detect where people are and with communicators that provide occupants with information about energy usage. Mobile devices, combined with augmented environments, potentially allow learners to decide where and when to learn.

今天的移动技术支持泛在学习，学习在任何地方，任何时间。智能手机和平板电脑能指导学习活动。他们也是科学的工具箱,使用嵌入式摄像头、录音器、越来越多的传感器和多媒体通信。此外，现在有技术可以支持移动学习，即使学生不亲自携带移动设备。例如，一座被嵌入传感器的建筑能检测人在哪，并为居住者提供能源使用的信息。移动设备，结合增强环境，潜在地允许学习者决定何时何地学习。

Disruptive Activity

Children have always sought to disrupt the routine of the classroom by provoking the teacher or engaging in surreptitious activities. But Internet-connected mobile devices and smartphones make it possible for students to take this to a new level, enabling children to converse with one another and with the outside world by “backchanneling” through social media, breaking the classroom’s hermetic seal and challenging the teacher’s ability to successfully orchestrate learning.

孩子们总是通过挑衅老师或者从事秘密活动去试图扰乱课堂的常规。但网络移动设备和智能手机使学生借此提高到一个新水平，使孩子们彼此交谈，通过社交媒体与外部世界联络，打破课堂的封闭性，挑战老师成功地安排学习的能力。

Disruptive Activity

The early reaction of most schools and teacher organisations has been to forbid the use of mobile devices in class. However, there has been growing recognition of the need to connect formal classroom learning and informal learning, and as we pointed out earlier, mobile devices can do that very effectively. Outside school, children use their mobile devices to create social networks, to constantly converse, and they develop skills in information sharing and online . Although these activities may be severely restricted in school, we believe they should be recognised as complementing rather than conflicting with formal education.

大多数学校和老师早期禁止在课堂上使用移动设备。然而，已经有越来越多的人意识到需要连接正式的课堂学习和非正式学习，正如我们前面所指出的，移动设备可以非常有效。校外，儿童使用他们的移动设备来创建社交网络去不断交谈，通过信息共享和在线研究来形成技能。尽管这些活动在学校可能是受到严格限制的，但我们相信它们应该被视为正规教育的补充，而不是相互矛盾的。

Future Trends and Challenges

Over the past decade, the field of mobile learning has expanded from pilot research projects to large-scale deployment of technologies and services. The ubiquity of smartphones and tablets means that Internet access on the move has, for many people, become deeply interwoven into daily life. E-books are already replacing paper books; mobile Internet access is replacing desktop browsing, with a third of all Web traffic now being mobile.

中国互联网信息中心（China Internet Network Information Center，简称CNNIC）发布的第37次《中国互联网络发展状况统计报告》显示，截至2016年6月，中国网民规模达7.10亿，互联网普及率为51.7%，手机网民规模达6.56亿，网民Wi-Fi使用率达到92.7%，网民以10-39岁年龄段为主要群体，比例达到74.7%。显然，互联网已深度融入社会经济发展和人们生活的方方面面。

Future Trends and Challenges

- As people go through life constantly connected by mobile devices, their patterns of learning will change.
- Shared contextual learning activities such as these are increasingly blending into the fabric of daily life. E-books are allowing readers to engage in social reading, sharing margin notes and annotations. Wearable devices, like glasses and badges, will allow location-specific experiences to be captured, shared, and recalled.

- 当人们在生活中不断地连接移动设备，它们的学习模式将改变。
- 共享情境的学习活动将越来越多的融入到日常生活中。电子书让读者参与社会阅读，分享笔记和注释。可穿戴设备，如眼镜和徽章，将允许捕捉、分享和回忆具体地点的经历。

Future Trends and Challenges

- information overload, needs to escape from relentless connectivity, and the skills required to filter and discriminate valuable knowledge from background data noise. As information becomes contextualized, these issues will not be confined to online activity. （信息过载，从数据噪音中获取和辨别有价值的信息）
- learning is no longer seen as confined to the classroom or lecture hall, but is embedded into everyday lives, then what rights or responsibilities do schools and colleges have to guide such education across formal and informal environments? （大学应肩负起怎样的权利和责任去引导跨越正式和非正式环境的教育）
- Privacy ,security and copyright issue （隐私性，安全性和版权问题）

Conclusion

From a technology perspective, mobile learning is the provision of educational content and services to people on the move, relevant to their location, across multiple devices including smartphones and tablet computers and even wall-sized displays. To learning scientists, the emphasis and the questions concern context and continuity of learning: How can our learning opportunities be best shaped in relation to location and time?

从技术的角度来看，移动学习是为在移动中的人们提供教育内容和服务，跨多个设备包括智能手机和平板电脑甚至在墙壁上展示。对于学习科学家来说，重点和关切的问题是情境和持续性学习：我们的学习机会如何能够在相关的时间和地点被最好的形成。

Conclusion

An emphasis on mobility is important for understanding and supporting learning, for many reasons. As parents and teachers, we need to equip our children with skills and strategies not only for learning specific topics, but also for managing learning projects across locations and adapting learning to physical and social contexts. Teachers will need to support children bringing not only mobile devices but also their own personal learning purposes, resources, and networks into classrooms. Context is a central and evolving theoretical construct for mobile learning. People learn within multiple contexts; by moving through and comparing contexts; and by creating contexts from interacting with locations, artefacts, resources, and other people.

强调机动性对理解和支持学习很重要，原因有很多。作为家长和老师，我们需要为我们的孩子配备技能和策略不仅对学习特定主题，也为跨地区管理学习项目和适应学习的物理和社会情境。教师不仅需要支持孩子携带移动设备，还有他们进入教室的个人学习目的、资源和网络。情境是一个中心，涉及到移动学习的理论建构。人们在跨情境中学习，通过位置交互、人工制品、资源和其他人来创建情境。

活 动

移动学习的未来发展趋势？

THANK YOU VERY MUCH!