Chapter 2
Independent Study, Transactional Distance, Guided Conversation and Adult Learning

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Introduction

In Ancient Greek, the antonym of *didactism* (διδακτικός: to teach or instruct) was *maieutics* (μαιευτικός, meaning midwifery), the Socratic method wherein students were encouraged to develop the skills and dispositions to think and study for themselves. In his *On Listening to Lectures*, Plutarch observed that 'The correct analogy for the mind is not a vessel that needs filling, but wood that needs igniting—no more—and then it motivates one towards originality and instills the desire for truth.' Over the centuries, there have been many notable autodidacts who were partially or wholly self-taught including Erasmus, Descartes, Leonardo da Vinci, Michael Faraday, Charles Darwin and Steve Jobs.

Independent Study

Independent study in modern higher education was first championed by Charles A. Wedemeyer at the University of Wisconsin–Madison, known as 'the father of

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American distance education'. He used the term 'independent study' in preference to what was then called 'correspondence education' or 'extension studies'. He argued that the societal imperative of lifetime access to learning required higher education provision to be characterized by openness, an absence of learning prerequisites, granting learners' choice in regard to the place, timing, methods and content of their learning, a recognition that different learners have different cognitive styles, effective use of communications technologies, testing, diagnosis and assistance for learners and collaboration between institutions to enrich the learning society (Wedemeyer, 1981).

Wedemeyer's 1981 Theory of Independent Study closely resembles the currently accepted characteristics of open and distance education:

- The student and teacher are separated.
- The normal processes of teaching and learning are carried out in writing or through some other medium.
- Teaching is individualized.
- Learning takes place through the student's activity.
- Learning is made convenient for the student in his or her own environment.
- The learner takes responsibility for the pace of his or her own progress, with the freedom to start and stop at any time (Simonson, Smaldino, Albright, & Zvacek, 2012, p. 44).

While emphasizing the importance of learner autonomy and self-responsibility, Wedemeyer also stressed the importance of teaching presence. He suggested that placing greater responsibility for learning on the student freed faculty members from their custodial-type duties, enabling them to give more time to truly educational tasks. He advocated the employment of all teaching media and methods that had been proved to be effective so that every subject or unit within a subject was taught in the best way possible (Wedemeyer, 1981). He also foresaw that the increasingly ubiquitous instructional telecommunications would mean that the opportunities for, and processes of, learning would come to the learners and not only in their own state or region.

Another of Wedemeyer's major achievements was his Articulated Instructional Media (AIM) interdisciplinary Integrated Liberal Studies degree programme for adults, which he initiated at Wisconsin–Madison in 1964. An expansion of a residential freshman–sophomore programme, this involved a combination of short sessions, off-campus seminars and independent study using telelectures, radio television, programmed materials, mobile laboratories and libraries. It laid the foundations for 'a new type of institution … made possible through course design utilizing media and technology and … supported by counselling and resource and learning centres' (Sherow & Wedemeyer, 1990, p. 18) and is often credited with being influential in the establishment of the UK Open University.

Wedemeyer's work greatly influenced the subsequent theorists in the field.

Transactional Distance

Someone who studied under and worked with Wedemeyer at Madison was English-born Michael Moore, now Distinguished Professor Emeritus of Education at Pennsylvania State University. Moore's major contribution to thinking on distance education was his Theory of Transactional Distance (1972, 1973, 1983).

He postulated that distance education was not only characterized by the physical separation of the learners but a psychological and communication space. Within this space which he called 'transactional distance', he argued that there was great potential for misunderstanding between instructor and learner and the greater the transactional distance, the greater the responsibility placed on the learner. His major thesis was that this transactional distance could be bridged by instructional dialogue and that this would be beneficial to both learners and teachers.

At the time of his early work, the only available dialogic means in distance education, apart from frustratingly slow correspondence by postal means, were audio- and video conferencing. But Moore foresaw that highly interactive electronic media and computers would permit more intensive, personal, individualized and dynamic dialogue and that the nature of each communication media would have a direct impact on the extent and quality of the dialogue between instructors and students. But he was also at pains to emphasize that 'virtual dialogue' could be incorporated in print, an idea expanded in Rowntree's (1990) 'Tutorial-in-Print'.

For programmes to be maximally effective in overcoming transactional distance, Moore (1993, p. 25) argued that they needed to provide:

- Presentations of information, demonstrations of skills and models of attitudes and values.
- Support for learner's motivation, using various techniques of stimulation.
- Stimulation of analysis and criticism of course content by such means as discussions by teleconferencing.
- Advice and counselling in study skills and use of the learning materials.
- Opportunities for practice, application, testing and evaluation of the information and ideas provided and skills demonstrated.

For more details of the transactional distance theory, see Chap. 4.

Guided Conversation

Swedish-born Börje Holmberg was for many years Professor of Distance Education Methodology and Director of the Institute for Distance Education Research at the FernUniversität, Hagen, Germany. His early concern for the problems of non-contiguous interpersonal communication that can arise when teacher and learner are separated in time and place (Holmberg, 1960) led him to develop his theory of what he originally called 'guided didactic conversation' (Holmberg, 1983). Later, realizing that for many speakers of English the word didactic implied an authoritarian

approach and student subordination, which was the very opposite of what he had in mind, he renamed this 'a theory of teaching-learning conversations' (Holmberg, 2003, p. 42).

He observed that:

- The stronger the characteristics of guided didactic conversation, the stronger the students' feelings of a personal relationship between them and the supporting organization.
- The stronger the students' feelings that the supporting organization is interested in making the study matter personally relevant to them, the greater their personal involvement.
- The stronger the students' feelings of personal relations to the supporting organization and of being personally involved with the study matter, the stronger the motivation and the more effective the learning.
- The more independent and scholarly experienced the students, the less relevant the characteristics of guided didactic conversation (Holmberg, 1983, pp. 49–50).

He argued that in distance education contexts, such feelings and rapport could be fostered by the use of well-developed self-instructional materials and two-way communication systems, a moderate density of information in a colloquial language and conversational forms that are comparatively easily understood and remembered. To accomplish this, he recommended the use of the personal and possessive pronouns, advice and suggestions to the student on what to do, what to avoid and what to pay particular attention to (with the reasons) and invitations to exchange views and question what was being said. He also premised that guided didactic conversation could take two forms: simulated (self-checking exercises, review questions with model answers, inserted questions, etc.) and real (between tutor and student).

Two additions to the work of Moore and Holmberg, which is particularly applied to learning in the internet age are Pask's Conversation Theory and Garrison's Community of Inquiry Model.

In his Conversation Theory, English e*ducational theorist, cybernetician and psychologist* Gordon Pask (1975, 1976) also concluded that learning and teaching systems should be conversational in form and so devised that strategies are matched to individual competence. Based on his investigations into the cybernetic and dialectic processes involved in human interaction with computers and teaching machines, this scientific theory explains how *technology-based* interactions lead to the construction of knowledge. It illustrates how in peer-to-peer online learning, learners have the opportunity to learn about the others in the group, their learning behaviours and their relationship with the content and how to teach each other. He also demonstrates how such a symbiotic process also applies to human–computer interaction wherein the computer monitors the learners and tracks their progress while the learners gather information and explore ideas with the assistance of the technology.

Pask also discovered that the learners used three levels of conversation to explore and absorb the key concepts and ideas in a virtual learning environment: natural language (general discussion); object languages (for discussing the subject matter); and metalanguages (for talking about learning and language).

His studies into social connections in e-learning and online conferencing led Canadian D. Randy Garrison, now professor emeritus at the University of Calgary, to investigate the nature of interpersonal interactions within educational communities of inquiry. His collaborative constructivist Community of Inquiry (CoI) framework explains that learning in computer-mediated communication involves three overlapping presences: social presence (the participants' and tutors' personal characteristics, online communications and behaviour); teaching presence (the design, facilitation and direction of cognitive and social processes to achieve the learning outcomes); and cognitive presence (through which learners construct and confirm meaning through discourse and reflection) (Garrison & Arbaugh, 2007).

Adult Learning

American adult educator Malcolm Knowles developed a theory of what he called 'andragogy', the art and science of helping adults to learn. The word comes from the Greek ἀνδρ- andr-, meaning 'man' and ἀγωγός *agogos*, meaning 'leader of', as opposed to 'pedagogy'or 'leader of children'. He also believed that students should be *self-directed learners* and that the teacher's role should be that of facilitator of learning rather than teacher and procedural guide rather than a content transmitter. He posited that the learning plan design should focus on three elements: the learner, the teacher and the learning resources and a process within which individual learners, with or without the help of others, should take the initiative, define their personal educational needs and educational goals, select the appropriate methods and materials for their learning and self-evaluate the learning outcomes. He acknowledged that not all adult learners were natural self-directed learners and so they needed help in developing these self-directed learning skills (Knowles, 1975).

Knowles made four assumptions about the characteristics of adult learners (Knowles, 1980). And four years later, he added a fifth (Knowles, 1984), as below:

1. *Self-Concept*—Because adults are at a mature developmental stage, they have a more secure self-concept than children. This allows them to take part in directing their own learning.
2. *Past Learning Experience*—Adults have a vast array of experiences to draw on as they learn, as opposed to children who are in the process of gaining new experiences.
3. *Readiness to Learn*—Many adults have reached a point in which they see the value of education and are ready to be serious about and focused on learning.
4. *Practical Reasons to Learn*—Adults are looking for practical, problem-centred approaches to learning. Many adults return to continuing education for specific practical reasons, such as entering a new field.

5. *Driven by Internal Motivation*—While many children are driven by external motivators—such as punishment if they get bad grades or rewards if they get good grades—adults are more internally motivated.

These assumptions led him to propose four principles of adult learning (Knowles, 1984):

1. Since adults are self-directed, they should have a say in the content and process of their learning.
2. Because adults have so much experience to draw from, their learning should focus on adding to what they have already learned in the past.
3. Since adults are looking for practical learning, content should focus on issues related to their work or personal life.
4. Additionally, learning should be centred on solving problems instead of memorizing content.

The Application of These Theories in Today's Open and Distance Learning

The four theories outlined in this chapter rightfully hold a place in the history of open and distance education. Many subsequent studies have confirmed that open and distance learning is essentially a social interactive, constructive, self-regulated and reflective process and the importance of developing autonomy, responsibility and self-efficacy in the learners and a sense of connection and engagement with their tutors and peers. The affordances of the Web and social media are providing further opportunities for research and application of these theories.

There is widespread agreement on the importance of self-directed and adult learning involving 'the assimilation of new information, attitudes and skills into the existing framework of personally meaningful constructs' that lies at the core of lifelong learning for personal or professional development (Candy, 1991, p. xix). Course developers and instructional designers are aware of the need to address Vygotsky's (1978) 'zone of proximal development', which he defined as 'the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' (p. 86). They do this by providing 'scaffolding', employing a variety of instructional techniques to guide students progressively toward stronger understanding and, ultimately, greater independence in the learning process, as first suggested by educational and cognitive psychologist Bruner (1978).

Wedemeyer's theory of autonomy in learning, his preference for the term 'independent study' rather than 'distance education' and his realization that in the future the ubiquity of instructional telecommunications would lead to learning anytime and anywhere and the consequent work of Moore, Holmberg and Knowles showed

great prescience. It is now being evermore widely recognized that much important learning occurs outside the lecture theatre and the classroom and that many of the learning systems, methods and materials employed in off-campus learning are equally valuable for on-campus students. But there is still a great need for more theoretical and empirical consideration of independent study, transactional distance, guided questioning and adult learning with the rise of such new modes of study as blended learning, flipped learning, massive open online courses (MOOCs), small private online courses (SPOCs) and distributed open collaborative courses (DOCCs). And as Siemens (2005) and Downes (2010) observe, in the age of the internet, with knowledge distributed across a network of connections, learners need to develop the ability to both construct and traverse these so that they can become largely responsible for how and what they learn and how they share and apply this learning. It is therefore important to keep on referring to, analysing and advancing these foundational theories to gain further insights into the use of such connective environments to scale-up quality education for millions in the developed and developing the world.

Gureckis and Markant (2012) accept the proposition that people learn better when the learning experience is under their control but offer a reminder that the reasons for this remain poorly understood. And like Knowles, they accept that not all learners are optimal self-directed learners and many cognitive biases and heuristics can influence how and what they learn. They posit that these issues can be investigated from both a cognitive and computational perspective. On the cognitive side, self-directed learning allows individuals to focus effort on useful information they do not yet possess, expose information that is inaccessible via passive observation, and through active engagement may enhance the encoding and retention of the new material. On the computational side, the development of efficient 'active learning' algorithms that can select their own training data is an emerging research topic in machine learning. Recent advances in these related fields may offer fresh theoretical perspectives, lead to a better understanding of the processes underlying self-directed learning and help to develop learning design methods attuned to the specific circumstances and characteristics of the individual learner.

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