Routledge
Taylor & Francis Group

CASE STUDY

Staying or leaving? Designing for persistence in an online educator training programme in Indonesia

Mary Burns*

Education Development Center, Waltham, Massachusetts, USA

This case study discusses factors impacting the attrition and persistence rates of 60 Indonesian educators in an online programme in 2010. Course designers developed three variations of a web-based programme – a fully online, hybrid and web-facilitated model – and placed 20 learners, all with similar technology skills, in the three different models. The online cohort experienced a 31% attrition rate while 100% of learners in the hybrid and web-facilitated models completed the programme. Data collection revealed that the greatest factor impacting attrition or persistence was the absence or presence of face-to-face interaction with the instructor and colleagues. This paper outlines programme design elements that learners found most helpful in successfully completing the course.

Keywords: persistence; completion; Indonesia; online learning; readiness

Overview

This case study explores the design and delivery of a five-month online training programme for 60 Indonesian primary-school educators. Research on factors impacting successful completion of online learning programmes informed the design and delivery of this online programme, in particular targeting learners who were identified as having fewer 'persistence factors' (Park & Choi, 2009) and who were therefore at greater risk of attrition[1] from the online programme. This paper describes the design and implementation of the online programme, outlines results, and examines strategies and techniques that successful online learners identified as most critical to their successful completion of this programme.

Upgrading teachers' knowledge and skills through online learning

Over the past decade, many developing nations (Indonesia and Pakistan are but two) have turned to online learning (typically, ongoing short courses a few weeks or months in duration) as a means by which to upgrade qualifications of the existing teaching workforce (Burns, 2011). One of the issues complicating this upgrading strategy is the potentially high rate of attrition within these programmes. Although attrition rates for online teacher in-service programmes are difficult to come by, some literature (Carr, 2000; Gaskell, 2006; Holder, 2007; Meister, 2002; Moody, 2004) posits that online attrition rates generally exceed those of face-to-face instruction by 10–20%, with estimates of attrition in online programmes ranging from 40% (Carr, 2000) to 90% (Latchem & Jung, 2010).

*Email: mburns@edc.org

While attrition is most probably the result of a confluence of factors – learner characteristics, programme and institutional characteristics, and the open and distant nature of online learning (Perraton, Creed, & Robinson, 2002; Tresman, 2002; Woodley, 2004) – high rates of attrition are particularly damaging to developing countries' efforts to upgrade teacher quality since they compromise the quality and effectiveness of online learning, waste scarce financial resources, and undermine national goals of upgrading the skills of the teaching workforce. Thus a major challenge facing many developing nations pursuing such a strategy is to identify mechanisms and modes of delivery to help learners successfully complete an online experience.

Successful versus unsuccessful online learners

In this paper I define 'successful' online learners as those who persist throughout the duration of an online course or programme and complete the major requirements associated with that course or programme. While research has identified a number of variables impacting student persistence[2] and completion[3] in online programmes, generally there appear to be three recurring sets of characteristics that distinguish successful from unsuccessful online learners.

The first of these are the *personal characteristics* of the online learner, such as autonomy, responsibility (Holder, 2007; Keegan, 1996), and 'an internal locus of control'[4] (Rotter, 1990). In particular, self-efficacy[5] (Bandura, 1995) and self-regulation[6] (Lim, 2001; Wang & Newlin, 2002; Zimmerman, 2008) appear to be important personal determinants of success in online learning. Two categories of learners appear to be particularly vulnerable to attrition – part-time online learners who often face a plethora of competing personal and professional demands (Kember, 1995; Lowe, 2005), and learners who matriculate from face-to-face learning environments that promote more passive learning (Lowe, 2005).

The next set of factors addresses *skills related to learning online*. These factors include expectations about the rigour of online study and its actual level of difficulty (Terry, 2001); the ability to successfully use technology (Harrell & Bower, 2011); prior education level (Simpson, 2006); time management skills (Hart, 2012); reading and writing ability (Mandernach, Donnelli, & Dailey-Hebert, 2006); and information management skills (Holder, 2007). Past success and satisfaction with previous online courses are also strong predictors of persistence (Hart, 2012; Simpson, 2006).

Finally, there are *course/programme-related variables,* such as access to technology, support and materials (Stanford-Bowers, 2008); learner engagement and interaction with other learners (Lapointe & Reisetter, 2008); and their sense of connection or isolation (Aragon & Johnson, 2008). Negative student perceptions of the instructor regarding the responsiveness, frequency, and quality of communication and feedback have been cited as barriers to successful online completion (Aragon & Johnson, 2008). Course design and delivery modes (synchronous versus asynchronous) can influence the learner's sense of connection or isolation to the instructor, institution or learning group (Kember, 1995).

The degree to which online learners possess these 'persistence factors' determines their 'readiness' to be successful online learners. If not present in sufficient quantity, online learners are at greater risk of failing (Park & Choi, 2009). For instance, learners with low persistence or readiness factors, when confronted with poor course design, technical problems, or exogenous issues (such as a job change),

may decide that online learning is simply not worth the effort. Since completion in online learning is closely correlated with learner motivation and satisfaction with online learning (Levy, 2007), learners with more persistence factors or a higher degree of readiness (self-efficacy, technology skills, and time-management skills) may be motivated to participate and persist in an online experience.

Designing online learning for low-readiness learners

In 2010 the Education Development Centre (EDC), in an effort to help the Government of Indonesia determine how online learning could be used to upgrade the qualifications of Indonesian educators, launched a five-month web-based learning pilot for 60 district-level educators[7] in instructional coaching so they could support teachers' efforts to integrate technology and interactive pedagogies in primary-school classrooms.

The immediate challenge that programme designers faced centred on readiness. First, low levels of *technical* readiness – a lack of access to functioning computers, fixed broadband access, and pervasively low technology skills – meant that these potential online learners had no experience with formal online learning opportunities. Next, all of the course's potential online learners had matriculated through and worked in an education system that emphasised hierarchy, individual achievement, obedience, passivity, and conformity (Burns, 2011) – skills that are often detrimental to success in online learning (Lowe, 2005). Thus, this targeted audience appeared to have low levels of *personal and learner* readiness for online learning and thus be at greater risk of dropping out.

Because of these factors, course designers focused on identifying the design elements and instructional techniques to better assist learners in successfully completing the online programme. As part of this strategy, the EDC designed three models of web-based instruction (Sloan Consortium, 2008) each comprising a cohort of 20 learners across two provinces[8] and each taking into account the degree of networked infrastructure in each province:

- A fully *online* model, where 100% of professional development and support was delivered to learners ('coaching candidates') via distance. Learners conducted their coaching apprenticeship with teachers via the Internet. Two of Indonesia's wealthier provinces, each with a relatively higher degree of technical infrastructure, were chosen to participate in this model.
- A *hybrid* model, wherein 50% of instruction and support for coaching candidates was delivered online and 50% face-to-face. The teacher coaching practicum was also conducted face-to-face. This model took place in two provinces where networked connectivity was considered comparatively fair to good.
- A *web-facilitated* model, in which 25% of instruction and support for learners was delivered online and 75% face-to-face. Although in this scenario coaching candidates participated in the online course, most professional development was conducted face-to-face, as were coaching sessions with teachers. This model was carried out in two provinces with very low socio-economic indicators and commensurately low networked infrastructure.

In addition to the five-month course, Figure 1 outlines other supports for learners, all designed to help them successfully complete the coaching programme. These

Mode of Delivery	Scenario 1: Online (100% via distance)	Scenario 2: Hybrid (50% via distance)	Scenario 3: Web-facilitated (25% via distance)
Orientation for online course	Face-to-Face	Face-to-face	Face-to-face
1. Introduction to coaching	Videoconference	Videoconference	Face-to-face
2. Ongoing instruction in coaching	Online	Online	Online
3. Practicum: Coaching Teachers	Online	Face-to-face	Face-to-face
4. Weekly support	Online	Face-to-face/Online	Face-to-face/Online

Figure 1.   Coaching programme: Three scenarios (online, hybrid and web-facilitated models).

included an orientation to online learning, an orientation to coaching, a school-based coaching practicum with teachers, and ongoing support and mentoring from an online instructor. The delivery of these activities also varied according to delivery mode – online, blended or web-facilitated.

Success in this overall coaching programme would be determined by completing all online course requirements; teacher and principal assessment of the learners' coaching work with teachers; the quality and frequency of the learners' online discussions; and the development of a coaching handbook (an electronic portfolio). The EDC secured formal release time for coaching candidates so they could spend three days per week in schools coaching teachers and one day per week participating in their online course. The EDC furnished training centres with computers and Internet access and provided schools participating in the fully online model with additional wireless access points and laptops. Finally, online instructors, all of whom had been trained as school-based coaches, were also trained as mentors and online instructors.

Programme designers explicitly drew on available research about success in online learning to address learners' low levels of readiness. While there was little designers could do to address the learners' personal characteristics, course designers specifically aimed to address the course-related and learning-related variables associated with persistence in online learning (see Figure 2).

Results from the coaching programme

Although learners were assessed on a multitude of measures, in keeping with the focus of this paper only persistence and completion are examined here.

Persistence

Eighty-nine per cent of all coaching candidates finished the course, carrying out all course assignments – a persistence rate that was high by Indonesian, and

Variables	Design Elements
Learning online	**(1) Development of models of intended practice for learners:** • Examples: Model portfolios; techniques for teacher meetings; anchors for good online posts, etc. **(2) Orientation:** Help learners with course navigation, reading and writing strategies, etc. **(3) Study aids for learners:** • Checklists for learners so they could keep track of weekly coaching and online course requirements • Study plans and schedule **(4) Highly structure design:** • Assignments due at same time each week • Certain activities occurred on same days each week • More synchronous than asynchronous
Course/Program – related	**(1) Social integration:** • Overall program grounded in community of practice design: All coaching candidates worked on a common task with common goals so that all were doing the same activities with teachers • Learners organized into online provincial teams • Learners organized into online cross-provincial learning teams • Learners worked on their course and in schools with a physical partner • Frequent synchronous communication **(2) Skilled instruction and facilitation:** • Training and support for instructor/mentor • Instructor worked with a partner **(3) High degree of instructor presence:** • Weekly phone, online, or face-to-face check-ins on learners • Instructors required to respond to an online question or request within 24 hours • Weekly online office hours • Instructor texted or called any learner who failed to participate by third day of an online discussion • Twice-monthly meetings with coaches to assess progress

Figure 2. Design elements addressing learners' readiness issues.

indeed international, standards.[9] However, persistence varied according to the web-based model in which learners participated. The lowest rate of persistence (69%) was among learners in the fully online model; in contrast, all learners (100%) in both the hybrid and web-facilitated models persisted throughout the coaching programme.
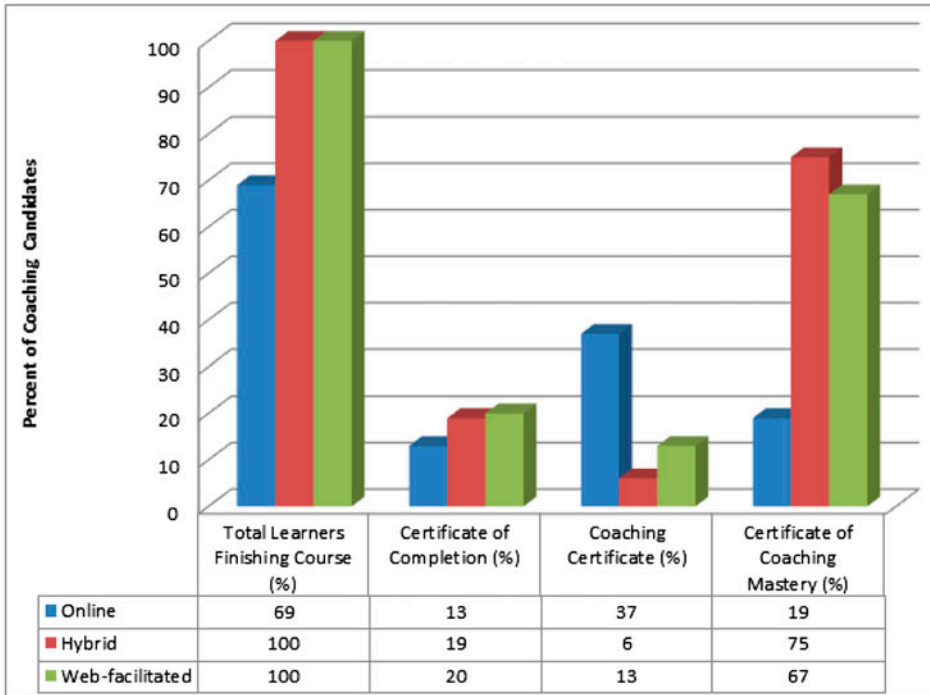
Figure 3.   Coaching programme completion rates by model of web-based learning (online, hybrid and web-facilitated models) (*n* = 60).

Completion

While persistence refers to continuing with the course of study to the end, completion includes a quality dimension and refers to fulfilling all requirements and receiving certification of attainment of outcomes. When this quality dimension is considered, the high persistence rate (89%) becomes more nuanced.

Because this was the first time participants partook of online learning, programme designers introduced three levels of quality completion (shown in Figure 3). Participants who fulfilled all programme requirements with a grade of 85% or higher received a 'Certificate of Coaching Mastery'. Those with a grade of 70–84% received a 'Certificate of Coaching' and those with grades of 60–69% received a 'Certificate of Course Completion' – but not an official coaching certificate.

The overall relatively poor performance of learners in the online cohort stands in stark contrast to their hybrid and web-facilitated counterparts. For example, whereas 56% of coaching candidates in the online cohort attained either a Certificate of Coaching or Certificate of Coaching Mastery, this figure was 81% for coaching candidates in the hybrid cohort and 80% in the web-facilitated model.

Post-programme evaluation results

Upon conclusion of the programme, researchers administered surveys and conducted interviews and focus groups with all 60 coaches – the 54 who finished the course and the six who left – to determine factors that influenced both attrition and retention. Their responses inform this section.

Factors leading to attrition

For all 60 learners it appeared that the greatest contributor to persistence or attrition, success or failure, was the mode of instructional delivery in which the learner participated. Results across a range of measures – from satisfaction with online learning to ratings of coaching ability by teachers and principals – were sharply differentiated along an online versus face-to-face dimension. Coaching candidates in the hybrid and web-facilitated cohorts reported more meaningful and satisfactory learning experiences, performed better academically, expressed greater confidence in their coaching ability, and were rated as more effective coaches by teachers and principals (Ho & Burns, 2010) than was the case with their online counterparts. Simply put, the greatest risk factor for failure was being part of the online cohort.

Almost all of these results had to do with the robustness and reliability of Internet connectivity. While online learners reported that the Internet connected them to colleagues, learning opportunities and resources that would otherwise be unavailable, it also, in many cases, separated them from those with whom they felt they should be in the most proximate contact – their mentors/instructors and the teachers whom they coached – and made carrying out their coaching duties more complex and time intensive than expected.

Even with extra bandwidth and wireless access points, the high-bandwidth demands of audio and video and synchronous communication simply overtaxed a tenuous broadband situation. This had a cascading effect on many of the learners in the online cohort. Because all learning, communication, and coaching occurred online, when the Internet failed all learning and communication ceased. When communication ceased or was interrupted, these novice online learners confronted the demands of working independently and the temporal and spatial challenges associated with working via distance. Many were able to overcome such challenges, in part with the support of their learning partner or in part because of their own degree of self-directedness or problem-solving abilities (e.g. downloading all videos and printing all readings or going to an Internet cafe), but others found the challenge presented by learning online too much to bear, especially without face-to-face support, reporting that they often felt 'alone'. It was this isolation from their instructor, from other learners, from the teachers they were supposed to coach that appeared to drive attrition from the course and frustration with the online learning experience for those who stayed. Even the presence of a physical coaching partner was not enough to ward against attrition for the six candidates who left the online programme.

Even when the Internet worked as it should, purely online relationships appeared unsatisfactory to the coaching candidates in the online cohort. Like the teachers they coached, they appreciated the novelty of online interactions, but appeared to view online learning as an imitation of 'real' learning that for them was face-to-face. All learners in the online cohort expressed a desire for face-to-face interaction and felt that they were receiving a more diluted learning experience than their colleagues in the hybrid and web-facilitated cohorts. Interestingly, this attitude about the imitative aspects of online learning was not shared by coaching candidates in the hybrid and web-facilitated cohorts.

Indeed, with the fully online cohort, the fact that communication and learning occurred only online (with instructors, colleagues and teachers) made dropping out easier. Because the online relationship was not deemed as 'real' as a face-to-face

relationship, and because online coaching candidates felt less 'present' to the teachers whom they coached online, the relationship was easier to end.

Factors influencing retention

All coaching candidates entered this programme with low levels of readiness. Despite this fact, 89% persisted throughout the entirety of the course and received at least a certificate of completion.

Interviews and focus groups with the 54 coaching candidates who remained in the programme suggest that the programme design contributed to persistence. In discussions, these successful learners repeatedly cited, in order of importance, the four factors listed below. The first two addressed social integration (the community focus of the course and the high degree of interaction with the course instructor) while the third and fourth touch more on the structure of the course:

(1) *Community of practice focus*. If doing everything online was the greatest risk factor for failure in this coaching programme, some degree of face-to-face interaction – with their online instructor, one another, and the teachers they coached – appeared to be the single biggest factor for success. Course designers assumed that, given the group orientation of Indonesian society, more face-to-face interaction would result in higher satisfaction levels. Yet the degree and frequency of interaction did not appear to matter to learners. Nor did it appear to impact quality completion. Evidence suggests that some amount of face-to-face interaction was good but more did not necessarily translate into better outcomes. For instance, learners in the hybrid model, who engaged in less face-to-face interaction with their instructors and teachers, generally performed better across all measures than did learners in the web-facilitated model, who experienced the highest levels of face-to-face interaction.

All learners – especially those in the hybrid and web-facilitated models – spoke of the importance of feeling part of a community with their online instructor/mentor, with one another, and most importantly with teachers (Ho & Burns, 2010). This sense of community offered a number of tangible benefits to learners. First, it furnished the emotional, logistical, and procedural supports in the pursuit of common interests and goals, transforming an undertaking from the individual to the shared realm, and as such helping to mitigate against some of the threats associated with failure in online settings – a sense of isolation, an over-reliance on technology, and heavy workload of this web-based programme. This attribution of support to success is consistent with research showing that students who receive ongoing support are more likely to complete an online course of study than those who do not (Simpson, 2006).

Next, for coaching candidates in the hybrid and web-facilitated cohorts, weekly face-to-face meetings with mentors and other learners along with weekly school-based work with teachers erased the notion of distance that many in the purely online cohort felt. For these learners, online communications reinforced face-to-face connections; while for learners in the online cohort, technology-mediated interactions were the only interactions they had with colleagues and teachers.

(2) *High degree of presence by online instructors*. Coaching candidates spoke of the high degree of contact and support demonstrated by the online instructors (who also served as coaching mentors). This presence assumed numerous forms – cognitive presence, where online instructors helped learners understand concepts or the technology; social presence where they helped facilitate online interactions; and emotional presence where online instructors checked in on individual learners (Burns & Bodrogini, 2011; Hart, 2012).

Many coaching candidates spoke of the online instructor as the 'face' of the programme who helped them navigate the world of online learning, which although enjoyable was still at times a disembodied and disorienting experience. Frequent and skilled facilitation, the ability to help learners manage their time and tasks, and ongoing support and guidance around the coaching task and online learning helped learners feel less distant from one another, from the instructor, and from the learning experience. These findings are consistent with research illustrating the relationship between instructor mentoring and student completion in online learning environments (Nora & Crisp, 2008).

(3) *Highly-structured nature of the online course.* Online learning is often attractive because of its 'any time, any place' nature (Holder, 2007; Ivankova & Stick, 2007). Yet for these learners, the online programme was attractive because it was so highly structured. Learners reported that the highly-scaffolded nature of the course in which they learned a coaching technique online and then practiced it with teachers, the pacing and weekly milestones, and the mainly synchronous nature of the online interactions lessened some of the time-management load and self-organisational issues associated with online learning. Learners did not have to decide when and how to plan their learning experiences because, in many cases, these experiences were structured for them. This is not to argue that such a high degree of structure and uniformity should serve as a template for online learning, but for these particular learners who were new to technology-mediated learning, the highly structured, tightly paced, and high-touch nature of the course did appear to help them successfully complete their online experience.

(4) *Face-to-face orientation.* Finally, coaching candidates spoke of the face-to-face orientation as critical in preparing them to be successful online learners, in particular because it helped them learn how to navigate Moodle, practice writing good posts, develop a time-management plan and weekly schedule, and establish expectations. The orientation also allowed learners to meet their instructor and other learners, thus fostering a sense of motivation and *esprit du corps*. Their assessment of the link between an orientation and persistence in online learning is consistent with research demonstrating that online learners who participate in an orientation have higher completion rates than those who do not (EDC, 2008; McVay, 2000, cited in Hart, 2012).

Implications for further research

This case study is primarily exploratory in nature and its small scale, limited duration (five months), and highly contextualised nature make generalisations

impossible. Yet it does surface at least two inter-related issues that may benefit from more systematic investigation.

The first issue is the need for more systematic and rigorous research in the area of persistence in online learning among culturally, professionally and geographically diverse populations and in different models of online learning (e.g. online courses of short duration). While research on persistence and retention exists, much of it is focused on traditional university settings or on adult learners in open and distance learning environments in wealthier nations in which cultural characteristics and optimal educational practices often differ from poorer parts of the globe. By examining the issue of persistence and readiness in different cultural and geographic contexts and among different populations, it may be possible to develop different models of persistence and readiness that can be utilised in the design of online learning programmes within these contexts.

Thus the second issue, emanating from the first, is the need to subsequently design for low levels of learner readiness in online programmes and offer different models of online learning accordingly. This case study appears to suggest that a blended approach is more feasible for low-readiness contexts since its face-to-face components help to mitigate some of the issues associated with low levels of learner readiness and poor Internet infrastructure. However, there is little comparative rigorous research in general on various models of online learning, and even less in developing-country contexts.

The need to expand the geographic boundaries of this research for both of these issues is particularly topical as the number of teacher upgrading online programmes in developing nations has proliferated in an effort to meet the 2015 deadline of the Millennium Development Goals. Based on the author's familiarity with some of these efforts, many of these programmes are being designed without reference to practices that promote successful completion in online learning. By gaining insights into why a teacher in a particular setting chooses to drop out or persist in an online programme, educational planners can begin to develop strategies that reflect local realities and help teachers become successful online learners.

Notes

1. Attrition is the decrease in the number of learners formally participating in course activities or a degree programme. It includes learners who remain enrolled but fail to participate or who participate so erratically that they cannot complete the course requirements (Lowe, 2005).
2. Persistence refers to completing one's studies and completing a programme or course despite adverse obstacles or circumstances (Park & Choi, 2009).
3. Completion has a quality component and refers to learners who complete a course or programme of study with a passing grade, thus receiving certification of completion related to quality outcomes (Hart, 2012).
4. Internal locus of control means that an individual feels that control of his/her actions rests with the individual.
5. Self-efficacy is the belief that one can successfully complete an online course/programme.
6. Self-regulation involves planning and forethought, monitoring one's own performance, and evaluating one's performance.
7. Subject-level specialists, supervisors and Master Teacher Trainers.
8. For a total of six provinces.
9. As a point of comparison, the EDC designed and implemented another online learning programme in Indonesia (minus the many supports and structure included in the

coaching programme) for 100 university faculty in 2010. Fewer than 50% of learners completed their two-month course of study.

Notes on contributor

Mary Burns is a senior technology specialist at Education Development Center. Ms. Burns has designed, delivered, evaluated and researched online learning programs for teachers and teacher educators in Asia, Africa, Latin America and the US. She advises ministries of education on using technology, including online learning, to improve educational quality in general and teacher quality in particular. Ms. Burns has authored over 60 books, book chapters, national policy documents, essays, and articles, primarily on using technology for teacher professional development. She is currently based in Ecuador, developing an online learning strategy for the Ministry of Education's new national teacher education university.

References

Aragon, S. R., & Johnson, E. S. (2008). Factors influencing completion and non-completion of community college online courses. *The American Journal of Distance Education, 22*, 146–158.

Bandura, A. (1995). *Self-efficacy in changing societies*. New York, NY: Cambridge University Press.

Burns, M. (2011). *Distance education for teacher training: Modes, models and methods*. Retrieved from http://go.edc.org/07xd

Burns, M., & P. W. Bodrogini (2011). "The wisdom of practice": Web 2.0 as a cognitive and community-building tool in Indonesia. In M.Thomas (Ed.), *Digital education: Opportunities for social collaboration* (pp. 167–193). Basingstoke, UK: Palgrave-MacMillan.

Carr, S. (2000). As distance education comes of age, the challenge is keeping the students. *The Chronicle of Higher Education, 46*, A39–A41.

Education Development Center (2008). *Raising Readers: Online professional development pilot course formative research report for the Public Broadcasting Corporation's Ready to Learn Initiative*. New York, NY: Author.

Gaskell, A. (2006). Rethinking access, success and student retention in Open and Distance Learning. *Open Learning: The Journal of Open, Distance and e-Learning, 21*, 95–98.

Harrell, I. L., & Bower, B. L. (2011). Student characteristics that predict persistence in community college online courses. *American Journal of Distance Education, 25*, 178–191.

Hart, C. (2012, Spring). Factors associated with student persistence in an online program of study: A review of the literature. *Journal of Interactive Online Learning*, 11. Retrieved from http://www.ncolr.org/jiol/issues/pdf/11.1.2.pdf

Ho, J., & Burns, M. (2010, August). *Distance education pilots for Indonesia: An evaluation of pilot program 1 – Decentralized Basic Education 2 (DBE 2)*. Evaluation report submitted to the United States Agency for International Development. Washington, DC: Education Development Center.

Holder, B. (2007). An investigation of hope, academics, environment, and motivation as predictors of persistence in higher education online programs. *Internet & Higher Education, 10*, 245–260.

Ivankova, N., & Stick, S. (2007). February). Students' persistence in a distributed doctoral program in educational leadership in higher education: A mixed methods study. *Research in Higher Education, 48*, 93–135. doi:10.1007/s11162-006-9025-4

Keegan, D. (1996). *Foundations of distance education* (3rd ed.). London, UK: Routledge.

Kember, D. (1995). *Open learning courses for adults: A model of student progress*. Englewood Cliffs, NJ: Educational Technology Publications.

LaPointe, L., & Reisetter, M. (2008). Belonging online: Students' perceptions of the value and efficacy of an online learning community. *International Journal on E-Learning, 7*, 641–665.

Latchem, C., & Jung, I. (2010). *Distance and blended learning in Asia*. New York, NY: Routledge.

Levy, Y. (2007). Comparing dropouts and persistence in e-learning courses. *Computers & Education, 48*, 185–204.

Lim, C. K. (2001). Computer self-efficacy, academic self-concept, and other predictors of satisfaction and future participation of adult distance learners. *The American Journal of Distance Education, 15*, 41–51.

Lowe, S. D. (2005). Responding to learner needs in distance education: Providing academic and relational support (PARS). In S. J. Levine (Ed.), *Making Distance Education Work: Understanding Learning and Learners at a Distance* (pp. 73–87). Okemos, MI: Learner-Associates.net.

Mandernach, J. B., Donnelli, E. & Dailey-Hebert, A. (2006, July). Learner attribute research juxtaposed with online instructor experience: Predictors of success in the accelerated, online classroom. *The Journal of Educators Online*, 3. Retrieved from http://www.the-jeo.com/Archives/Volume3Number2/MandernachFinal.pdf

Meister, J. (2002). *Pillars of e-learning success*. New York, NY: Corporate University Xchange.

Moody, J. (2004). Distance education: Why are the attrition rates so high? *The Quarterly Review of Distance Education, 5*, 205–210.

Nora, A., & Crisp, G. (2008). Mentoring students: Conceptualizing and validating the multi-dimensions of a support system. *Journal of College Student Retention, 9*, 337–357.

Park, J. H., & Choi, H. J. (2009). Factors influencing adult learners' decision to drop out or persist in online learning. *Educational Technology & Society, 12*, 207–217.

Perraton, H. Creed, C. & Robinson, B. (2002). *Teacher education guidelines: Using open and distance learning*. Retrieved from http://unesdoc.unesco.org/images/0012/001253/125396e.pdf

Simpson, O. (2006). Predicting student success in open and distance learning. *Open Learning, 21*, 125–138.

Sloan Consortium (2008). *Staying the course: Online education in the United States*. Wellesley, MA: Babson College.

Terry, N. (2001). Assessing enrollment and attrition rates for the online MBA. *Technological Horizons in Education, 28*, 64–68.

Tresman, S. (2002, April). Towards a strategy for improved student retention in programmes of open, distance education: A case study from the Open University UK. *The International Review of Research in Open and Distance Learning*, *3*. Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/75/145

Wang, A., & Newlin, M. (2002). Predictors of web-student performance: The role of self-efficacy and reasons for taking an online class. *Computers in Human Behavior, 18*, 151–163.

Woodley, A. (2004). Conceptualizing student dropout in part-time distance education: Pathologizing the normal? *Open Learning, 19*, 47–63.

Zimmerman, B. J. (2008). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American Educational Research Journal, 45*, 166–183. doi:10.3102/0002831207312909