



*Improving
Distance
Education
for Adult
Learners*

Working Paper No. 2

Measuring Contact Hours and Educational Progress in Distance Education Programs

September, 2005 Update



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Project IDEAL is a consortium of states working together to develop effective distance education programs for adult learners. The Project IDEAL Support Center at the University of Michigan provides technical support in the areas of teacher training, research design, data collection, data analysis and reporting. The Center develops working papers on topics of importance to distance education. Through collaborative research and practice the consortium is working to provide quality distance education for adult learners across the country.

Working Paper 2 – 2005 Update

**Measuring Contact Hours and Educational
Progress in Distance Education Programs**

Jerome Johnston
University of Michigan

Project IDEAL Support Center
Institute for Social Research • University of Michigan
Ann Arbor, MI

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Abstract

Measuring Contact Hours and Educational Progress in Distance Education Programs

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Project IDEAL is a consortium of states working to develop, implement, and sustain distance education programs for adult basic learners. Each state is experimenting with specific strategies and curricula to determine whether distance is a viable instructional option. If it is, they want to know what standards and policies should be implemented to meet state and national accountability reporting requirements for distance education. This working paper addresses two central components of the accountability issue: measuring contact hours (frequently referred to as seat time) and educational gain.

In classroom programs, students are credited with seat time hours based solely on attendance. The amount of seat time earned is used to determine enrollment (usually associated with earning 12 hours). It is also used as an indicator of when to conduct follow-up testing (frequently set at 35 or more hours). This definition of seat time will not work for distance programs. Project IDEAL states are experimenting with three alternative models, depending on the curriculum they are using:

- *Teacher Judgment Model.* Assign a fixed number of hours credit for each assignment based on a teacher judging if the learner completed the assignment (*GED Connection* and *Workplace Essential Skills*);
- *Learner Mastery Model.* Assign a fixed number of hours credit based on passing a test on the content of each lesson (*Crossroads Café, English for All, GED Illinois*);
- *Clock-Time Model.* Assign hours of credit based on elapsed time that a learner is connected to an online instructional program (*PLATO, Skills Tutor, McGraw-Hill Contemporary GED Interactive*).

Data from four states suggest that all three methods provide acceptable evidence of learner engagement with learning activities. The methods are sufficiently comparable to the way contact hours are defined for classroom programs that they permit useful comparisons of distance and classroom learners.

Two states—Pennsylvania and Ohio—used the Teacher Judgment Model to track seat time for distance learners studying *GED Connection*. In 2003-2004 they found that the typical distance learner was engaged in studying for an average of three months. The average seat time was about 30 hours, and ranged from 12 to more than 60 hours. About one-quarter of the learners exceeded 40 hours and took a posttest (TABE); approximately 12 percent of the entire group of distance learners showed a gain of 1 EFL or more. As a percentage of those that took a posttest the number is much higher—about 50 percent. Between 6 and 9 percent of the distance learners earned a GED.

Abstract

North Carolina used the Learner Mastery Model to track distance students who were studying *Crossroads Café*. On average, learners were in the program for 15 weeks and earned 60 hours of seat time based on demonstrating mastery of six units in the series. Forty-four percent took the CASAS reading test and 20 percent showed a gain of 1 EFL or more on the test. As a percentage of those that took a posttest the number is much higher—about 50 percent.

Rhode Island used the Clock-Time Model to track distance students who were studying *SkillsTutor*. Administrators were comfortable that the strategy provided suitable data. Rhode Island distance learners were in the program twice as long as distance learners in other programs (29 weeks vs. 13), but accrued less seat time (25 hours). This may indicate that this model is less comparable to the seat time formula used for classroom programs. Too few distance students were posttested to provide reliable estimates of achievement for these students.

Getting distance learners to come to a test center to take a standardized posttest is difficult. Experimentation is needed with incentives for taking a posttest and with ways to make a proctored test available in locations close to where a distance learner lives or by some secure electronic means.

The tools now exist to fit distance learning into the metrics used for classroom programs. Data collected in four states using these tools suggest that distance learning is a viable option for a group once thought to be unsuited to independent study. Providing distance options requires training and support for teachers and administrators, and some challenges—such as getting larger numbers to take a posttest—need additional attention. But the potential exists to increase the access of a new group of adults that cannot take advantage of classroom offerings because of distance, scheduling, or personal discomfort with classroom instruction.

Three Strategies to Measure Contact Hours for Distance Learners

Many states are experimenting with the use of distance education to reach adult learners not served by classroom programs. For the most part they are not yet including distance learners in their NRS reports, because their programs are still experimental. But they are looking ahead and asking how they should count distance learners if the experiments indicate that distance is a cost-effective pedagogically-sound approach.

The broad range of assessment and accountability issues in distance education are framed in another working paper available from the Project IDEAL Support Center.¹ Two difficult issues are measuring contact hours (usually referred to as seat time) and educational gain. The present paper informs these issues with data from several states that have been experimenting with different approaches to measuring seat time over the last three years.

In classroom programs seat time can be an important ingredient in the funding formula used by a state to support adult education services. For this reason the Project IDEAL Support Center and the collaborating states are looking for ways to measure seat time in distance education that could help policy makers understand how distance education fits with expectations for classroom-based programs.

To measure seat time in classroom programs learners are given hours of credit for attending class. The credit is based on attendance; no judgment is made about what a student learns in these activities; thus the term “seat time.” Sometimes students are given credit for other in-center activities such as time spent in a computer lab or time spent in one-on-one tutoring. In addition, in most states learners are given credit for the time they spend with intake activities such as goal setting, testing, and curriculum orientation.

The amount of seat time accrued by a learner is important to several decisions. In most programs a learner is considered to be formally enrolled in a center’s educational program after 12 hours and the center can claim credit for reimbursement purposes. Additional milestones—for example 40, 50 or 100 hours—are used to indicate when learners should be retested to measure their educational progress.

In distance education, intake, baseline assessment, and orientation activities typically take place at a center where a teacher can observe that a learner has engaged in these activities. Seat time for these activities can be assigned in the same way as classroom programs. But certification of learning activity that takes place outside the center is

¹ Young, S.J., Johnston, J. and Hapgood, S.E. (2002). Assessment and Accountability Issues in Distance Education for Adult Learners (Working Paper 1). Ann Arbor, MI: University of Michigan, Institute for Social Research, Project IDEAL. Available at <http://projectideal.org>

problematic. First of all, nobody observes learners doing their work. Beyond that, the character of self-study is different from classroom learning. In distance education, the learning activities are just that—a replacement for classroom instruction, not “homework” as it is understood in a classroom program. Also, learners do not study for agreed-upon time periods; they study to complete the learning activities negotiated with their distance teacher.

States in the Project IDEAL consortium feel that learner self report of study time is neither appropriate nor valid. Given the stakes, a teacher needs to be involved in the certification process, or the computer-based curriculum must track the time that students spend being taught the material. The states agreed to try out different strategies, depending largely on the curriculum learners were studying at a distance. For the most part, Project IDEAL states are using one of eight curriculum packages in their distance program.² For purposes of measuring seat time, the curricula can be divided into two groups:

- (1) Computer-assisted instructional programs such as *McGraw Hill Contemporary GED Interactive*, *PLATO* and *SkillsTutor* that are completely self-contained. All of the instructional components are online or computer-based and a program management system monitors learner performance.
- (2) Instructional programs with learning components that cannot be monitored easily. *Crossroads Café*, *GED Connection*, and *Workplace Essential Skills* are in this category. *GED Illinois* falls in this category too. Although much of the instruction is managed by the software, some student assignments require that a teacher evaluates student work.

The characteristics of these curricula argued for three different models to measure seat time for distance learners.

Clock-Time Model

PLATO and *SkillsTutor* are designed to provide all of the instructional components a learner needs; a teacher’s role is mostly to motivate and keep learners on task. These curricula track the hours of time a student spends interacting with the materials. Since the software provides guided instruction, clock hours are viewed as instructional hours. If the user is idle for a preset amount of time the software disconnects the learner and stops the clock. Although it is possible for a learner to subvert the system by having a friend “stand in” for the learner, the states that are using *PLATO* and/or *SkillsTutor* are comfortable accepting the clock hours reported by the software as a measure of seat time for distance learners. *McGraw Hill Contemporary GED Interactive* is similar, but technically it is not web-based. The instructional software resides on a stand-alone computer. At various points the student connects the computer to the Internet. At that time the instructional hours are uploaded to a central server.

² Appendix 1 shows the curricula currently being used for distance education in Project IDEAL states.

Teacher Judgment Model

With the other curricula there is no way to measure instructional hours. *GED Connection* (GEDC), and *Workplace Essential Skills* (WES) have three instructional components: videos, workbooks and online activities. There is no way to monitor time spent watching the video or working on the workbook, and—by design—the online component does not track how long a user is connected, since the learner needs to leave the site frequently to do exercises on other sites on the Web. *Crossroads Café* consists of videos and a workbook; it does not have an online component.

States using GEDC and WES agreed to trust self report when it came to viewing the videos and to give credit for one half hour of seat time if a learner claimed to have viewed the video. For the workbook, teachers would examine student work and judge whether assignments were completed to the level they might have been if a student had worked on them in a classroom. Teachers used the following rule when they reviewed workbooks:

Examine the workbook. If it has entries that relate to the questions/activities for 70% of the items in a Program Lesson (or a negotiated subset of the activities), give the learner an “x.” The answers can be minimal. The only requirement is that the answer is clearly related to the questions.

The same 70% rule was used when they reviewed online activities. Each “x” earned seat time hours as shown in Exhibits 1 and 2. Note that the hours are constant for every student and every activity category to match the underlying notion of classroom seat time that it is time sitting in a classroom that counts, not the time the learner took to master the material. The hour values were arrived at by asking a group of teachers that had taught WES and GEDC in a classroom how many hours of class time they typically spent “covering” the same activities.

The teacher judgment model was attractive to the WES and GEDC states because it involved a teacher in the certification process. The Project IDEAL Support Center designed logs to help teachers keep track of each learner’s credits. The logs are described in Appendix 2.

After a year of experience with the logs, GEDC teachers asked to be given the option of assigning partial credit to learners who completed 50-74% of workbook activities or online modules because the exercises were so difficult and required so much study time by a learner. A similar request was made by WES teachers who wanted to award partial credit for the online activities. The proposal was approved by Distance Learning Coordinators in the affected states and partial credit (half the full-credit hours) can now be awarded.

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Exhibit 1. Seat Time Credit Earned By GEDC Learners

Activity	Credit (Hours)	Definitions
Intake	3.0	Fill out state intake data form(s) and inform student about available services. Goal setting.
Assessment	3.0	Standardized assessment (TABE, CASAS, etc.),
Orientation	4.0	Familiarization with GEDC product, Preview Test, study tasks (submitting assignments, etc.), setting pace, training in independent study strategies. Goal setting.
Tech Training	2.0	Computer and online training
GEDC Videos	0.5 per Video	Student self report: viewed or not
GEDC Workbook Chapter	4.0 per Chapter *	70% of all questions in the workbook exercise, or a negotiated subset of questions, are answered.
GEDC Internet Activities	1.0 per Activity	70% of all questions in the Internet activity, or a negotiated subset of questions, are answered.
GEDC Online Modules	3.0 per Module **	Student appears to have engaged the materials in some depth--teacher judgment.

* A teacher can award two hours credit for 50-74% being completed. ** Based on recommendations of a panel of teachers that taught GEDC, beginning July 1, 2005 credit for GEDC Online modules will increase to 4.0 hours.

Exhibit 2. Seat Time Credit Earned By WES Learners

Activity	Credit (Hours)	Definitions
Intake	3.0	Fill out intake form and inform about available services. Set goals with student.
Assessment	3.0	Standardized assessment (TABE, CASAS, etc.),
Orientation	4.0	Familiarization with WES, Preview Test, study tasks (submitting assignments, etc.), setting pace, training in independent study strategies. Goal setting.
Tech Training	2.0	Computer and online training
WES Videos	0.5 per Video	Student self report: viewed or not
WES Workbook Chapter	2.0 per Chapter *	70% of all questions in the workbook chapter or a negotiated subset of questions are answered.
WES Online Units	1.5 per Unit **	3 of the 4 portfolio text boxes have answers that are relevant to the question

* A teacher can award one hour credit for 50-69% being completed. ** Based on recommendations of a panel of teachers that taught WES, beginning July 1, 2005 credit for WES Internet Activities will increase to 2.5 hours. A teacher can award 1.25 hours credit for two of the four portfolio boxes.

Learner-Mastery Model

North Carolina had already developed a model based on learner mastery of the material. The state developed unit mastery tests for each of the 26 units that comprise *Crossroads*

Café. When learners feel they have mastered a unit they take the quiz in the presence of a teacher. If the student answers 70% of the items correct s/he earns 10 hours of seat time credit. Recently, North Carolina added *English for All (EFA)* to their distance offerings. They developed a similar test for EFA units and award six hours of credit for 70% mastery of each test. *GED Illinois* is a state developed online GED prep curriculum. Unit proficiency tests are an integral part of the curriculum. A student earns 50 minutes of seat time if they get 80% correct on the test.

Data on the Three Models

Four Project IDEAL states have used one or more of the seat time models for several years. Data on the typical amount of seat time earned by distance learners in a year indicates how the logs work in practice. It also provides evidence about the level of effort that can be expected from distance learners.

Teacher Judgment Model: GEDC in Ohio and Pennsylvania

Both Ohio and Pennsylvania launched a *GED Connection* distance program in fall, 2002 and data are available for two school years—a partial year in 2002-2003 and a full year in 2003-2004. Each cycle represents an experiment designed to see what teachers could accomplish in the way of recruitment and what learners could accomplish when studying GEDC on their own.

Year 1: 2002-2003

In Year 1 all the teachers were new to teaching GEDC at a distance. They were trained in November and December and began recruiting distance learners in January. The instructional period ran from February through May—four months. Table 1 shows the seat time for enrolled learners—those that accrued at least 12 hours of seat time.

Ohio recruited 215 adults to study GEDC at a distance; 183 (85%) of them stayed for 12 hours and qualified as official students. Of these, one-third accrued 12-19 hours of seat time; this represents studying the GEDC materials for up to nine hours beyond intake and orientation.³ Smaller percentages of students fell in each of the remaining categories of seat time. One third (34%) reached 40-hours, a point at which it is commonly recommended that students be retested for educational progress. The mean seat time accrued by all official students was 36 hours; the median was 29 hours. (The mean is much higher because there were a number of students in the highest category—60+ hours—that had hours in excess of 100 hours. In this case, the median is a better measure than the mean to represent the full sample of learners.)

Pennsylvania recruited 308 distant learners and 249 (81%) qualified for enrollment. About three-fifths (59%) of the enrolled learners fell in the lowest category of 12-19 hours seat time—a higher percentage than in Ohio. Another quarter accrued 20-29 hours. Nine percent reached 40 hours—a threshold for retesting. Only 5% reached 50 hours, the

³ Intake accounts for as few as 10 hours and as much as 12 hours of the seat time total.

point at which students are retested in Pennsylvania. The mean seat time was 28 hours and the median 19 hours.

Table 1. Recruitment, Retention and Seat Time for GEDC Learners in Ohio and Pennsylvania: Year 1: 2002-2003 *

	<i>Ohio</i>		<i>Pennsylvania</i>	
	N	%	N	%
Recruited	215	100%	308	100%
Enrolled (Earned 12-hours)	183	85	249	81
Seat Time† for Enrolled Students	183	100%	249	100%
12-19 Hours	58	32	130	59
20-29 Hours	36	20	63	25
30-39 Hours	28	15	22	7
40-49 Hours	20	11	14	4
50-59 Hours	12	7	5	1
60+ Hours	29	16	15	4
Mean Seat Time	35.8		28.4	
Median Seat Time	29.0		18.5	

* Implementation period: January-June, 2003. On average, distance learners were oriented in late January through mid February; they were engaged in learning for four months—February-May.

† Seat time includes credit given for intake and orientation activities.

Year 2: 2003-2004

Year 2 is more representative of what distance learners can do. In Year 2 the implementation period was almost one full school year—from October-May. Most of the distance teachers were continuing from the previous year and knew what was entailed. Table 2 shows the data. In Ohio the median seat time was 23 hours. About two-fifths (41%) of the enrollees earned 12-19 hours of seat time—no more than nine hours of study beyond intake. Another one-fifth earned 20-39 hours, and 13% earned 30-39 hours. Fully one-quarter earned 40 or more hours. The mean was 33 hours and the median 23 hours. Again, the mean is higher than the median because of the large number in the top category of 60+ hours that earned more than 100 hours. The profile of learners in Pennsylvania is quite similar.

How does the seat time for distance learners compare with the seat time of learners who study in classrooms? Pennsylvania reports that the median seat time earned by a student in a closed entry/exit class is 26 hours, and Ohio reports that classroom students (classified at levels 5 and 6) spend an average of 28.4 hours in a single class. The data

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suggest that GEDC distance students can be guided to spend at least as much time studying for their GED as classroom students, and in many cases more time.⁴ This is an important finding: important to programs if policy were instituted that compensated them for serving distance learners based on seat time, and important to learners because of the potential impact on their educational achievement as will be seen later.

Table 2. Recruitment, Retention and Seat Time for GEDC Learners
in Ohio and Pennsylvania: 2003-2004*

	<i>Ohio</i>		<i>Pennsylvania</i>	
	N	%	N	%
Recruited	304	100%	524	100%
Enrolled (Earned 12-hours)	275	90	481	92
Seat Time† for Enrolled Students	275	100%	481	100%
12-19 Hours	113	41	230	48
20-29 Hours	59	21	90	19
30-39 Hours	36	13	71	15
40-49 Hours	16	6	33	7
50-59 Hours	11	4	17	4
60+ Hours	40	15	40	8
Mean Seat Time	32.5		29.9	
Median Seat Time	23.0		21.0	

* Implementation period: October, 2003 - June, 2004. On average, distance learners were engaged in learning for 8 months—October, 2003 – May, 2004. † Seat time includes credit given for intake and orientation activities.

Controlling for Weeks in the Program

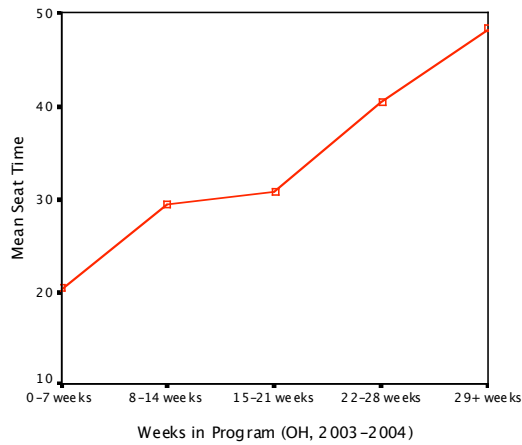
The above figures suggest what is possible—on average—with a *GED Connection* distance program set to run most of a school year. However, as with many classroom programs, the distance programs were “open enrollment” with students entering at varying times throughout the year. In Ohio in Year 2 the average amount of time in the program for enrolled learners was 13.6 weeks and in Pennsylvania it was 12.4 weeks. This amounts to about three months, not the full eight months that the program was in operation.

⁴ Obviously, the number of hours earned by distance students is a function of the hours assigned for completing work. An in-depth study of time spent in classrooms on GEDC material is needed.

Table 3. Seat Time By Weeks in Program

Weeks in Program	Ohio			Pennsylvania		
	n	%	Mean Seat Time Hrs	n	%	Mean Seat Time Hrs
0-7	50	18%	20.5	92	19	20.4
8-14	67	24	29.5	137	29	26.6
15-21	78	29	30.8	101	21	27.6
22-28	25	9	40.4	39	8	42.1
29+	55	20	48.2	112	23	37.2
Total	275	100	33.0	481	100	29.3

Figure 1. Weeks in Program By Seat Time



It is worth asking how seat time varies depending on how long learners were in the program. Table 3 and Figure 1 show the relationship between weeks in the distance program and seat time. Those who were in the program less than eight weeks averaged 20.5 hours of seat time. Those in the program for 8-21 weeks averaged 30 hours and those in the program 22 weeks or more averaged 40 hours or more.

Of particular interest are the learners in the seat time category 12-19 hours. Are they learners who were in the program for a long period of time, but they studied very little in that period? Are they learners with a specific short-term study goal, which they met and then left the program (e.g., students who need to brush up on one subject area before taking the GED test)? Or, are they learners who were in the program for only a short time and did not have enough time to study more before the end of the data collection period? We cannot know with any certainty, since these learners or their teachers did not provide any descriptive information about their time in the program, but we can speculate based on time in the program. Table 4 looks at these learners and asks how many weeks they had been in the program. In both Pennsylvania and Ohio about one-quarter had been in 7 weeks or less. It is reasonable to say that this group was not in the program long

enough to accrue more hours. But the remainder were in the program long enough to expect that they might accrue more hours. Further study of the group with eight or more weeks in the program, but less than 20 hours of seat time, would provide useful insights about the fit of distance education with the lives of adult learners.

Table 4. Weeks in Program for Learners with 12-19 Hours of Seat Time

State		0-7 Wks	8-14	15-21	22-28	29+	Total
PA	n	61	70	46	13	40	230
	%	27%	30%	20%	6%	17%	100%
OH	n	30	40	23	9	11	113
	%	27%	35%	20%	8%	10%	100%

Teacher Judgment Model: WES in Pennsylvania

The WES curriculum was not designed to be studied in its entirety. The 24 chapters cluster into four content strands: employment (getting and holding a job), workplace communication, workplace reading, and workplace math. Teachers frequently have students study just one or two strands of WES based on their intake evaluation and personal goals. In some cases they negotiate a subset of the chapters within a strand, especially for those adults needing just the employment strand to prepare themselves to find and interview for a job. For these reasons learners in the WES-at-a-Distance program might earn fewer hours than learners studying for their GED. There are two other reasons why WES learners might earn less seat time.

- The workbook activities have lower seat time hours associated with their completion (one WES workbook chapter earns 2.0 hours, and a GEDC workbook chapter earns 4.0 hours)
- Learners studying WES are often not as good candidates for distance learning; their reading level and study skills are often lower than that of learners preparing for their GED

The data for two years of WES distance learners in Pennsylvania are shown in Table 5. In Year 1 teachers recruited 824 learners; 667 of these (81 percent) were formally enrolled. The median seat time for the enrolled learners was 16.5 hours. Given that much of the first 12 hours may have been spent entirely in intake and orientation, this represents about 4.5 – 6.0 hours studying WES itself. Nine percent exceeded 30 hours of study; this is 18 - 21 hours spent studying WES itself. The mean seat time of 21.3 hours is about six hours less than Pennsylvania students earn in a typical classroom course. In Year 2 the average for learners increased by three hours to 24.5 hours. (Data are not available for typical time spent in classroom courses devoted to teaching workplace skills.)

Table 5. Recruitment, Retention, and Seat Time for WES Learners in Pennsylvania: 2002-2004

	Year 1: 2002-2003 *		Year 2: 2003-2004 **	
	N	%	N	%
Recruited	824	100%	457	411
Enrolled (Earned 12-hours)	667	81	411	90
Seat Time† for Enrolled Students	667	100%	411	100%
12-19 Hours	408	61	195	47
20-29 Hours	165	25	114	28
30-39 Hours	43	6	65	16
40-49 Hours	22	3	12	3
50-59.9 Hours	6	1	6	1
60+ Hours	23	3	19	5
Mean Seat Time Hours	21.3		24.5	
Median Seat Time Hours	16.5		20	

* Implementation period: January-June, 2003. On average, distance learners were oriented in late January through mid February; they were engaged in learning for 3-4 months—February-May. ** Implementation period: October, 2003 - June, 2004. On average, distance learners were engaged in learning for four months. † Seat time includes credit given for intake and orientation activities.

Weeks in Program

In Year 2, WES distance learners were in the program, on average, for 11.4 weeks—about three months. Table 6 displays the relationship between weeks in the program and seat time; the relationship is not as strong as it is for GEDC students. It shows that those that were in the program for 22 weeks or more averaged 29 seat time hours, indicating that some WES students do study for longer periods of time.

Table 6. Seat Time By Weeks in Program for WES Learners in 2003-2004

Weeks in Program	n	%	Mean Seat Time Hrs
0-7	96	23%	20.4
8-14	132	32	23.5
15-21	62	15	21.3
22-28	21	5	29.8
29+	104	25	29.9
Total	415	100	24.4

Teacher Judgment Model: The Special Case of New York

The state of New York has one of the oldest and largest distance learning programs in the country. It was developed in 1994, prior to the advent of computer-based and multimedia instructional software. At that time the state legislature provided guidelines for claiming both instructional hours for a distance teacher and contact hours for a distance student.

There are two types of distance program, with minor variations in how seat time is generated. One is referred to as the "telephone model" because a teacher supports a distance learner with weekly telephone calls. The student studies a pre-established curriculum such as Math Basics—a pre-GED curriculum from Kentucky Educational Television. The telephone model dictates that a teacher will contact a student for one half hour each week. If the teacher judges the student has learned the material in the week's assignment, s/he awards the student six contact hours. Another type of distance program is the "packet model." Here the teacher prepares customized packets of materials for each student. Each packet is designed to correspond to 12 hours of student work. The instructor sends the packet to the student by mail or leaves the packet in a convenient place for the student to pick-up. When the student returns the packet – usually in two weeks – the instructor reviews the work. If the work is approved, the learner is credited with 12 contact hours.

Learner Mastery Model: Crossroads Café in North Carolina

In North Carolina learners in the *Crossroads Café* distance program earned 10 hours of seat time each time they passed a mastery test on one of the 26 chapters of *Crossroads Café*. The data for North Carolina distance learners are shown in Table 7.

The distance program started as a four-month experiment. When funding came through at the last minute, an additional four months were added on to the program, but not all teachers volunteered to continue the program. So the data from North Carolina may not be representative of the type of seat time learners might accrue typically in a full school year. On average, learners were in the program for 15 weeks. Forty-five percent of the learners got credit for mastering six units or more.

There is a strong relationship between weeks in the program and seat time. On average, those who were in the program for seven or fewer weeks earned credit for mastering just 4 chapters. Those who were in the program for more than 28 weeks earned credit for mastering nine units, and many completed as many as 20 units.

Table 7. Overall Retention and Seat Time for Crossroads Cafe Learners in North Carolina, 2003-2004

	Total	
	N	%
Recruited	202	100%
Enrolled (Earned 12-hours)	175	87
Seat Time† for Enrolled Students	175	100%
10 Hours	34	19
20 Hours	24	14
30 Hours	16	9
40 Hours	7	4
50 Hours	15	9
60+ Hours	79	45
Mean Seat Time	60.0	
Median Seat Time	52.0	

Table 8. Seat Time By Weeks in Program for Crossroads Learners

Weeks in Program	n	%	Mean Seat Time Hrs
0-7	41	23%	41.3
8-14	72	41	51.7
15-21	33	19	70.5
22-28	5	3	101.0
29+	24	14	94.2
Total	175	100	60.0

Clock Time Model: Skills Tutor in Rhode Island

At this point, only Rhode Island has provided data on seat time for students studying *SkillsTutor*. Rhode Island has had a very small distance effort under way for several years. In 2003-2004 students averaged 29 weeks in the program. They earned seat time based on actual clock time reported by the *SkillsTutor* management system. Data from the program is shown in the table below.

Table 9. Overall Retention and Seat Time for Skills Tutor Learners in Rhode Island

	N	%
Learners Enrolled (Reaching 12-hour Status)	25	100%
Average Per Teacher	5	
Seat Time† of Enrolled Students		
12-19 Hours	11	44%
20-29 Hours	6	24
30-39 Hours	3	12
40-49 Hours	3	12
50-59 Hours	2	8
60+ Hours	-	-
Mean	25.8	
Median	20.3	

NOTE: On average, distance learners were engaged in learning for 29 weeks.

† Seat time includes credit given for intake and orientation activities.

The mean seat time was 25.8 hours. This is less than the average seat time for GEDC in Pennsylvania and Ohio, and the learners were in the program more than twice as long as GEDC students. This may indicate that the Clock-Time Model is less comparable to the seat time formula used for classroom programs. The distribution of seat time is similar to the distribution for GEDC in Pennsylvania and Ohio; a large percentage in the lowest category of 12-19 hours, tapering down at the higher categories of seat time.

Learner Outcomes

The goal of any educational effort is to have learners engage in learning tasks that help them reach their educational goals. We have already seen that distance learners can invest time at levels similar to classroom learners. Can those that invest sufficient time be persuaded to take posttests, and will the scores they obtain support the premise that they are similar to classroom students? Data on learners in Ohio and Pennsylvania provide answers to these questions.

Standardized Tests

The data on testing is shown in Table 10. Consider first the data for Ohio. Virtually all of the 275 distance learners in Ohio sat for a pretest. Of these, 67 (25%) earned 40 hours of seat time—the point at which teachers are encouraged to consider posttesting learners. Fifty-nine took a posttest and a little over half of them (33 learners) gained one or more EFL (Educational Functioning Level). The percentage of GEDC students in

Measuring Contact Hours and Educational Progress

Pennsylvania that took a posttest was slightly higher (26%) as was the percentage of WES students (29%). But the percent gaining 1 EFL or more was about the same.

Table 10. Standardized Test Results* for Ohio and Pennsylvania, 2003-2004

	OH GEDC		PA GEDC		PA WES	
	n	%	n	%	n	%
Enrolled	275	100%	481	100%	411	100%
Took Pretest	272	99	348	72	387	94
Earned 40 Hrs	67	25	90	19	37	9
Took Posttest	59	22	125	26	120	29
EFL Gain \geq 1	33	12	67	14	49	12
EFL Gain \geq 1 as % of those posttested		56		54		41

* NOTE: Both Ohio and Pennsylvania use the TABE for their standardized measures of educational gain

In North Carolina a much higher percentage took a posttest (44%) and fully 20 percent gained 1 EFL or more on the CASAS Reading Test. (See Table 11.)

Table 11. Standardized Test Results* for North Carolina (Crossroads Café)

	Reading		Listening	
	n	%	n	%
Enrolled	175	100%	175	100%
Took Pretest	165	94	160	91
Earned 40 Hrs ???	101	58	101	58
Took Posttest	72	44	69	43
EFL Gain \geq 1	35	20	20	11
EFL Gain \geq 1 as % of those posttested		49		29

* NOTE: The 175 learners that appear in Reading and Listening are the same people; learners could take the CASAS reading and/or listening tests.

Earning a GED

Of course the goal of the GEDC program is to get learners prepared to take the GED itself. Tables 12 and 13 show the numbers in the GED program that passed one or more subtests or earned their GED. The numbers in the table are based on teacher reports, and have not been verified by GED Testing Service. There may be some error in these reports. (In Project IDEAL teachers submit data at the very end of the fiscal year. Typically, states compile their GED statistics in the two quarters of the next fiscal year using data matching.) The data are quite similar for PA and OH. About 12 percent

passed one or more subtests, and six percent earned their full GED. The tables also show that those who passed the tests averaged about 40 hours of seat time studying *GED Connection*.

Table 12. GEDC Students Earning a GED By Time in Program and Seat Time (PA, 2003-2004)

	n	%	Weeks in Pgm	Avg Seat Time
Enrolled	481	100	19.0	29.3
Took 1 or more GED subtests	59	12	24.3	39.1
Passed 1 or more GED Subtests	59	12	24.3	39.1
Earned GED	30	6	17.7	43.1

NOTE: Time period is October, 2003 – June, 2004. Median seat time for all enrolled learners (n=481) in PA GEDC is 21 hours. Median weeks in program for all enrolled learners (n=481) in PA GEDC is 15.14 weeks.

Table 13. GEDC Students Earning a GED By Time in Program and Seat Time (OH, 2003-2004)

	n	%	Weeks in Pgm	Avg Seat Time
Enrolled	275	100	18.5	33.0
Took 1 or more GED subtests	28	11	20.9	38.6
Passed 1 or more GED Subtests	28	11	20.9	38.6
Earned GED	26	9	20.0	39.4

NOTE: Time period is October, 2003 – June, 2004. Median seat time for all enrolled learners (n=275) in OH is 23 hours. Median weeks in program for all enrolled learners (n=275) is 16.57 weeks.

Placing a value on these results for distance learners in relation to classroom learners is difficult. None of the three states (Ohio, Pennsylvania, and North Carolina) keep comparable statistics on the percent of students that make educational gains in a year in such broad categories of programs as GED preparation or ESL. Nevertheless, the results do show that for as many as 40-50% of distance learners who get posttested, there is the potential to make significant educational gains.

Counting Distance Learners in the NRS

Five years ago, before distance education had been tried by states, administrators of adult education programs were skeptical about distance education as a tool for ABE, ASE and ESL learners. Experience in the classroom suggested that few adult learners could handle

the independent activity required in distance learning. It was also felt that few would have convenient access to the Internet, and many of the more attractive curricula for distance learning had an online component. But questions went beyond feasibility. It was clear then that accountability in general, and the National Reporting System in particular, would play an increasingly important role in defining what was considered acceptable practice. Accountability and the NRS require demonstrating educational progress within a specified time period or after a specified amount of seat time. Nothing was known about how much quality learning time a distance learner would spend to improve their knowledge and skills. Worse yet, there was no model for how to measure the time that they spent.

Each of the three models for measuring seat time that was tried in the Project IDEAL states appears to be valid, useful and acceptable to those responsible for adult education. In addition, the seat-time data collected using these models indicate that distance learners look very much like classroom learners in terms of seat time. There is little reason to argue that they should be considered somehow different from classroom students. The only challenge is getting distance students to return to the host organization to take a posttest.

The Special Case of WES

It was argued in an earlier Working Paper (Young, et al., 2002) that WES students should not be included in a state's regular NRS report. Among the reasons were these. (1) The WES curriculum is focused primarily on workplace skills while the NRS is concerned with core literacy skills—reading, writing, and mathematics. (2) A portion of the WES curriculum (workplace reading and workplace mathematics) can teach basic literacy skills, but distance students probably will not accrue enough seat time to achieve gains in this area. (Classroom based research on WES suggests that the time required to master the content of either the reading or math strands is 24-40 hours (Johnston & Young, 2001).

At the time the earlier paper was written there was no data on actual seat time to back up the contention that distance students would not study WES long enough to make a measurable gain. But the data from this year's research in Pennsylvania suggest they can. In a three-month period, distance learners studying WES accrued an average of 24.5 hours. Nine percent reached 40 hours. Thirty percent of the WES learners took both a pre- and posttest TABE, and 40 percent of those made an EFL gain of one level or more. So it is possible to consider WES learners as part of a group that should be expected to make educational gains. The problem is that the majority of teachers in Pennsylvania choose WES for learners with less ambitious goals, learners who want a short term course to brush up on occupational skills, not improve their reading and math skills. Before including WES learners in an accountability system, learner goals may need to be taken into account.

There are two possible ways to handle "informal" learners that want to study WES. One is to exclude them from the state's NRS goal setting or put them in a special NRS category. Massachusetts hopes to use its distance program to accommodate adults who are on a waiting list for classroom programs. The numbers are small enough that they

can negotiate their NRS goals (percent achieving 1 EFL gain or more) in a way that excludes them from the target for NRS, but includes them in the state accountability system.

If the goal of teaching WES at a distance is to teach workplace skills to those who cannot attend classroom programs, then classify WES distance learners in the NRS category Work-based Project Learners. Learners can be placed in this category if they study a workplace curriculum for a period of 12 - 30 hours. The classification is intended to enable programs to track and be credited for serving learners in short-term educational courses that are designed to facilitate entry into employment. To count students as Work-based Project Learners programs must put learners in this category prior to the beginning of instruction. There is also a requirement that they be tested with a standardized instrument, though pretesting is not required. Prior to designating a distance learner in the work-based program category, programs must first identify a set of achievements or expectations for student learning as a result of studying the course. Then they must develop a posttest to measure the achievements. In Pennsylvania educators are examining whether their state-developed Work-based Foundation Skills Framework measures might be tailored for use in measuring gain for WES learning. The Work-based Foundation Skills Framework measures are currently used for purposes of measuring the degree to which tailored programs are meeting the needs of employers. Employers identify specific skills and knowledge they want their employees to learn. The program designs an instructional curriculum that is both based on the employer's requirements and draws from the list of competencies identified in the Work-based Foundation Skills content. Tailored checklists are then constructed and administered, in the beginning, to determine student learning needs and, at the end, to determine achievement.⁵ A correlation between the Framework competencies and the WES curriculum can be used to determine what components of the curriculum are appropriate for instructional purposes.⁶

This approach to using competency-based checklists as measures of performance has potential for success with WES. States with similar workplace checklist materials may wish to correlate their assessment materials with the WES content. The process of assessment of WES distance learners could be integrated into the existing workplace programs of assessment using trained evaluators. Alternatively, Project IDEAL states may opt to pool resources to develop checklists and performance-based assessment approaches similar to those used in Pennsylvania for use in all consortium states.

Posttesting Distance Learners

Getting distance learners to take a state's standardized baseline measure is generally not a problem, since most distance learners come to a center for intake and orientation where a pretest can be administered in a secure environment. However, the biggest challenge for distance educators may be getting distance learners to return to a center for follow-up

⁵ For a description of the Pennsylvania Framework, see "The Use of Checklists to Assess Adult Learners: Examples from Pennsylvania" in Petty, 2004.)

⁶ Author note: Since first writing this section Pennsylvania has eliminated their work on the Framework. I have left in the description because it illustrates a way that an assessment could be constructed.

testing. The same factors that make attending classes difficult—transportation, childcare, disability, work schedule—affect a distance learner’s ability and willingness to come to a center for a posttest, especially when the posttest has little bearing on the learner’s potential for employment. Finding ways to posttest these students in a proctored, secure environment requires creativity and planning.

Several possibilities exist for solving this problem. States agree that testing must occur in a proctored setting. To ensure validity of the test, students cannot take the test independently as they might if tests were offered online in an unsecured setting such as their home. At least two states have begun exploring partnerships with local service agencies such as libraries, schools, and businesses. The task is largely an administrative one. Once contact has been made with a local agency and someone from that site agrees to serve as a test proctor, staff from the literacy center need to train the proctor in the requirements of the particular tests that need to be administered. While using satellite testing centers does not address the problem of the reluctant test taker, it does make testing more convenient for learners and removes the distance and scheduling problem.

Conclusion

The tools now exist to fit distance learning into the metrics used for classroom programs. Data collected in four states using these tools suggest that distance learning is a viable option for a group once thought to be unsuited to independent study. Providing distance options requires training and support for teachers and administrators, and some challenges—such as getting larger numbers to take a posttest—need additional attention. But the potential exists to increase the access of a new group of adults that cannot take advantage of classroom offerings because of distance, scheduling, or personal resistance to the more social aspects of classroom programs.

References

- Johnston, J., & Young, S. (2001). National field test of Workplace Essential Skills. Ann Arbor: University of Michigan, Institute for Social Research.
- Petty, L. I. (2004). Using assessment to guide instructional planning for distance learners (Working Paper 3). Ann Arbor: University of Michigan, Institute for Social Research, Project IDEAL.
- Young, S., Johnston, J., & Hapgood, S. E. (2002). Assessment and accountability issues in distance education for adult learners (Working Paper 1). Ann Arbor: University of Michigan, Institute for Social Research, Project IDEAL Support Center.

Appendix 1: Distance Curricula Used in Project IDEAL States

The seat time logs described in this Working Paper cover most of the curricula used by the states. The exceptions are GED Illinois and GED Missouri. Both systems work on a clock time model. Teachers can take hours directly out of the management system.

Curricula Used in Distance Education Programs in IDEAL States

	Cr Café	EFA	GEDC	GED IL	MHC	Pre GEDC	PLATO	SkTutor	WES	Other
Arizona					●					
Arkansas			●				●	●	●	
Idaho								●		
Illinois				●						
Kentucky							●			
Maine			●							
Maryland			●	●						
Massachusetts	●		●		●	●			●	
Missouri								●		GED MO Tutorsystems
New York			●					●		†
North Carolina	●	●								
Ohio			●			●		●		
Pennsylvania			●			●			●	
Rhode Island			●					●		
Washington				●						††

Curricula abbreviations: CrCafé = *Crossroads Café*; EFA = *English for All*; GEDC = *GED Connection*; GED IL = *GED Illinois*; GED MO = *GED Missouri*; MHC = *McGraw-Hill Contemporary GED Interactive*; MH/Life = *Madison Heights/Lifelines*; SkTutor = *SkillsTutor*; WES = *Workplace Essential Skills*. † Math Basics & GRASP; †† Various small-scope ESL courses delivered on Blackboard.

Three additional Project IDEAL states that will begin their programs this coming year: Michigan, Texas and Indiana. Michigan will be using WES. Texas and Indiana are still selecting curricula.

Appendix 2: Project IDEAL's Seat Time Logs

The Project IDEAL Support Center has developed an Online Data Collection System that teachers can use to calculate the seat time earned by distance learners studying any of the curricula listed in Appendix 1. The System provides places to enter a great deal of information about students in addition to seat time: demographics, goals, and test performance. The seat time aspects are described in the following four pages.

Seat Time Logs

The Project IDEAL Support Center has developed a number of seat time logs for use by distance instructors. At present there are logs for *Crossroads Café*, *English for All*, *GED Connection*, *McGraw-Hill/Contemporary GED Online*, *Madison Heights/Lifelines*, *PLATO*, *SkillsTutor*, and *Workplace Essential Skills*.

The logs follow one of three models: the clock-time model (*PLATO*, *SkillsTutor*, *MHC-GED Online*), the teacher judgment model (*GED Connection*, *Workplace Essential Skills*), and the learner-mastery model (*Crossroads Café*). Models for *English for All*, *Madison Heights/LifeLines*, and *Pre-GED Connection* are under consideration. The clock-time, teacher judgment, and learner mastery models are described in detail in Working Paper 2¹ from the Project IDEAL Support Center.

Clock-Time Model

In the clock-time logs a teacher records the actual time displayed in the curriculum's management system. Three curricula, *MHC-GED Online*, *PLATO*, and *SkillsTutor* have internal time tracking features that enable teachers to see the amount of time students spend on each lesson or unit.

SkillsTutor Log Summary

The *SkillsTutor* and *PLATO* logs are virtually identical. Each contains five content areas (correlated to the GED test subject areas) along with an "Other" field (used to indicate workplace skills, family skills activities, etc.). For each area the teacher provides information of two types. (1) modules assigned/ exempted/ and mastered, and (2) time spent studying the assigned modules. *PLATO* and *SkillsTutor* each have multiple lessons in a variety of content areas. Students study sets of lessons tailored to their specific needs. Since the content in *MHC-GED Online* is intended for students who are studying for their GEDs, the log is organized by content area and by lesson. Below is an example of the *SkillsTutor* log.

¹ Johnston, J. (2004). *Measuring seat time and educational progress in distance education programs*. Available for download from projectideal.org/IDEALpublications.htm.

Seat Time :: Skills Tutor

Walter 3, Donna / 80803

	Reading	Writing	Social Studies	Math	Science	Other
Modules Assigned	10	⌚	⌚	⌚	⌚	⌚
Modules Exempted	2	⌚	⌚	⌚	⌚	⌚
Modules Mastered	6	⌚	⌚	⌚	⌚	⌚
TIME TOTALS:	14:45					
Jul 1 - Jul 15	⌚	⌚	⌚	⌚	⌚	⌚
Jul 16 - Jul 31	⌚	⌚	⌚	⌚	⌚	⌚
Aug 1 - Aug 15	⌚	⌚	⌚	⌚	⌚	⌚
Aug 16 - Aug 31	⌚	⌚	⌚	⌚	⌚	⌚
Sep 1 - Sep 15	⌚	⌚	⌚	⌚	⌚	⌚
Sep 16 - Sep 30	⌚	⌚	⌚	⌚	⌚	⌚
Oct 1 - Oct 15	⌚	⌚	⌚	⌚	⌚	⌚
Oct 16 - Oct 31	⌚	⌚	⌚	⌚	⌚	⌚
Nov 1 - Nov 15	4:00	⌚	⌚	⌚	⌚	⌚
Nov 16 - Nov 30	6:30	⌚	⌚	⌚	⌚	⌚
Dec 1 - Dec 15	4:15	⌚	⌚	⌚	⌚	⌚

SkillsTutor Edit Screens

Clicking on a clock in the modules section opens up an edit screen where the appropriate number can be entered.

Enter Modules Assigned

Program: Skills Tutor
Module: Reading

Number Assigned:

Clicking on a clock icon in the date section opens up a screen with menus that can be used to record the study time noted in the *PLATO* or *SkillsTutor* management system for the two-week period that was selected.

Enter Seat Time

Program: Skills Tutor
Strand: Reading
Week: 12/1/2004 - 12/15/2004

Hours: Minutes:

Teacher Judgment Model

Currently, two curricula used by IDEAL states, GEDC and WES, utilize the teacher-judgment model of determining seat time. The teacher-judgment logs assign pre-set seat time values whenever a teacher indicates that the activity was completed according to a rubric. In the *GED Connection* log below, seat time has been earned for completing various workbook, video and Internet activities. This time is totaled at the top of the log. Time spent doing assigned activities other than those in the *GED Connection* curriculum is totaled separately.

GEDC Log Summary

Seat Time :: GEDC				
Johnston, Jerome / 357456				
Enter Supplemental Non-Unit Based Time				
GRAND TOTAL:		58.00 hours of GEDC seat time		
		3.50 hours of Supplemental GEDC seat time		
Writing (Total Strand Hours: 23.00) (Supplemental Hours: 3.50)	Workbook	Video	Internet Activities	Supplemental
Lesson 2: Passing the GED Writing Test	<input type="checkbox"/>	<input type="checkbox"/>	0.00	<input type="checkbox"/>
Lesson 3: Getting Ideas on Paper	4.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lesson 4: The Writing Process	4.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lesson 5: Organized Writing	4.00	<input type="checkbox"/>	1.00	<input type="checkbox"/>
Lesson 6: Writing Style and Word Choice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lesson 7: Effective Sentences	4.00	<input type="checkbox"/>	<input type="checkbox"/>	3.50
Lesson 8: Grammar Usage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00
Lesson 9: Spelling Punctuation and Capitalization	2.00	<input type="checkbox"/>	4.00	<input type="checkbox"/>
Lesson 10: The GED Essay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Module 1: News Writing			<input type="checkbox"/>	
Module 2: Writing Straight News			<input type="checkbox"/>	
Module 3: Writing Feature Stories			<input type="checkbox"/>	
Module 4: Preparing to Write a Review			<input type="checkbox"/>	
Module 5: Writing A Review			<input type="checkbox"/>	

GEDC Edit Screens

The edit screen for the video has a menu with two options: Yes or No. In other words, did the student report that he/she watched the video? If the student indicates he/she has watched the video, the teacher selects Yes from the pull-down menu and the student receives 30 minutes of seat time credit. The edit screen for the workbook has a menu with three options: Yes, Partial, No. Yes earns 4 hours of credit; partial earns 2 hours.

Enter Seat Time

Program: GEDC
Strand: Writing
Unit: Lesson 9: Spelling Punctuation and Capitalization

Workbook

The edit screen for Internet activities lists the available Internet activities. A teacher puts a check by each activity completed and then selects a time value corresponding to one hour for each activity completed.

Enter Seat Time

Program: GEDC
Strand: Writing
Unit: Lesson 9: Spelling Punctuation and Capitalization

NOTE: Put a check in the box next to each Internet Activity completed. Indicate Total Time earned by using the menu to select an amount equal to one hour for each activity completed.

Internet Activities

- 9: Capitalization
- 9: Commas
- 9: Spelling
- 9: Mechanics

Total Time

Supplemental activities can be associated with particular units or not. Either way, clicking on the clock icon opens an edit screen with space to describe in detail the particular learning activities assigned as well as two menus that can be used to indicate the estimated time it took the learner to complete the activity.

Enter Seat Time

Program: GEDC
Strand: Writing
Unit: Lesson 7: Effective Sentences

Hours: Minutes:

Describe supplemental instruction time:

The other teacher-judgment logs work in the same way as the log for *GED Connection*. They differ only in the time values assigned to completing the activity.

Learner Mastery Model

The *Crossroads Café* log operates somewhat differently, though it looks identical to the teacher judgment logs. In North Carolina a student earns ten hours of seat time if they get 70% or better on a unit mastery test. A teacher tracks whether the workbook and video were completed, but these events have no seat time associated with them. To receive seat time credit, students must demonstrate their mastery of the materials.

Crossroads Café Summary Log

GRAND TOTAL:		30.00 hours of Crossroads Cafe seat time		
Worktext A (Total Strand Hours: 30.00)	Workbook	Video	Assessment	Supplemental
1. Opening Day	0.00	0.00	10.00	☺
2. Growing Pains	0.00	0.00	10.00	☺
3. Worlds Apart	0.00	0.00	10.00	☺
4. Who's The Boss?	☺	☺	☺	☺
5. Lost and Found	☺	☺	☺	☺
6. Time Is Money	☺	☺	☺	☺

Crossroads Café Edit Screen for Assessment

Enter Seat Time

Program: Crossroads Cafe
Strand: Worktext A
Unit: 2. Growing Pains

Assessment