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ABSTRACT

The Testing and Assessment Department of Dawson Technical Institute (Illinois) determined that approximately 25-30 percent of the students taking the entrance Test of Adult Basic Education do not meet the academic level required to start a training program. A competency-based adult reading and math program was developed, and the decision was made to offer the program under the Adult Continuing Education Department. The student may enroll in the entire program or take just the reading or math course. Competencies for each course have been developed based on the skills needed to enter into the training programs. Each student is evaluated on these competencies to verify mastery of the skill. A certificate issued at the end of the course indicates the level of mastery in each area. Each 4-week course--math and reading--meets twice each week for 100 minutes. Each session has a lecture or presentation on one or more of the competencies; classwork may be individual or small group activities. Each competency and class session is enhanced by outside assignments in either the NovaNet, a computer-based educational system, or Audio Visual Tutorial (AVT) lab. Both the NovaNet and AVT are open-entry/open-exit labs. This program has been effective in meeting the needs of about one-third of the group entering the program. (YLB)

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**Competency Based Reading and Math  
Program for Adult Students  
Entering Vocational Training Programs.**

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The need for a competency based reading and math program for the adult student entering vocational training programs was jointly identified by the Student Services, Academic Support and Training departments at Dawson Technical Institute, a unit of Harold Washington College.

The student population at Dawson ranges in ages from 18 to 65+ with an average age of 28. Their academic grade equivalence ranges from 3.0 to 12.9+. The racial make-up is 96% African-American with the remaining 4% a combination of Caucasian, Hispanic and Asian. This adult population is attending Dawson seeking enrollment in one of three major program areas. The first being vocational training in either business technology, industrial technology, health occupational or food service. In these areas students are pursuing basic or advance certificates that lead to entry-level employment or enrollment into a two or four year college. The second is community service programs offering employment and training in the areas of health, homemaker aid, short order cook, waiter/waitress, or armed guard. Students enrolled in these programs are there to upgrade current skills or pursue short-term training for immediate employment. The third program is pre-collegiate which offers remediation and developmental courses for students to meet the entrance requirement into vocational training or community service program. The remainder of this paper describes a program geared to the adult that needs this pre-collegiate assistance.

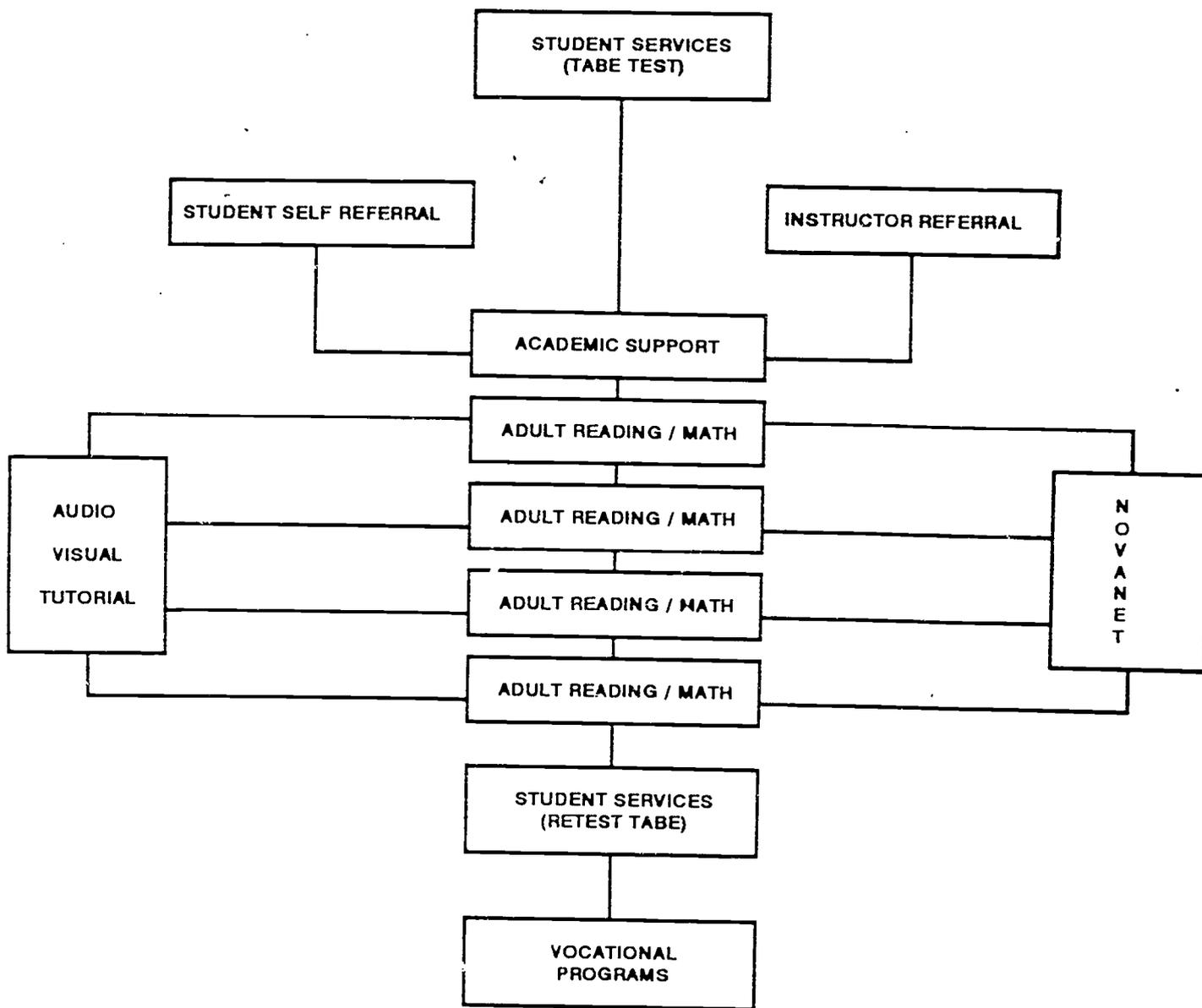
## Student Flow Chart

All students entering Dawson Technical Institute are tested by the Student Services Department and if they do not meet entrance grade level requirements they are referred to the Academic Support Department. This department also receives students that are self referrals or referred by instructors.

A student may receive a number of different services from this department with one of them being the Competency Based Reading and Math Program. The pages that follow show the student flow and a detailed narrative of the program. The program is four weeks long with two sessions per week. In conjunction with the classes the student is assigned material in both the NovaNet and Audio Visual Tutorial labs.

Once the student has finished the program their skills mastery are documented and are retested by Student Services. If they are at the appropriate grade level they will enter into a vocational training program.

# STUDENT FLOW



At Dawson Technical Institute it was identified by the Testing and Assessment Department that approximately 25 to 30% of the students taking the entrance Test of Adult Basic Education (TABE) did not meet the academic level to start a training program. These students grade equivalences varied from two months to four years below entrance requirements. Based on this wide range of grade level separation a competency based adult reading and math program has been developed.

A competency based design for this program was decided on because the method of instruction identifies the skills needed to meet a specified standard, informs the students of the precise and detailed learning objective required to achieve performance, emphasizes performance standards for course requirements and allows each student to master the task through flexibility in learning methods.

The decision was made to offer this program under the Adult Continuing Education (ACE) department through Harold Washington College. By offering this from the ACE department the cost would be kept to a minimum of five to twenty dollars for the program. ACE also allows for the development and implementation of courses with the least amount of restrictions regarding method and scheduling of courses. The student can enroll in the entire program or may take just the reading or math course.

The general objectives for the course are:

Math

1. Students will complete assigned math units and progress tests at a 80% mastery level.
2. Students will complete all homework assignments on time.
3. At mid-term students will demonstrate 80% mastery on an exam covering the material to date.

4. At the completion of the course students will be post-tested to identify skill improvement and a plan of independent study development to improve in areas not yet mastered.

#### Reading

1. Students will complete assigned reading units and will be able to locate facts, identify context clues, draw accurate conclusions and order sequence of events at 80% mastery level.
2. Students will complete all homework assignments on time.
3. At the completion of the course students will be post-tested to identify skill improvements and a plan of independent study development in areas not yet mastered.

The competencies for each of the courses were developed based on the skills needed to enter into the training programs. Each student is evaluated on these competencies to verify their mastery of the skill. A certificate is issued at the end of the course and indicates the level of mastery in each area.

In math there are 10 competencies which are evaluated:

Basic Number Facts	Multiplying Fractions
Placement Value and Rounding	Dividing Fractions
Addition	Introduction to Decimal
Subtraction	Adding and Subtracting
Multiplication	Decimals
Division	Multiplying Decimals
Least Common Multiples	Dividing Decimals
Introduction to Fractions	Introduction to Percent
Adding Fractions	Percent Problems
Subtracting Fractions	Ration and Proportion

In reading there are 10 competencies at three different levels. Level I evaluates students at grade levels 6-7, level II at 8-9, and level III at 10-11. The competencies which are evaluated are:

Identifying Main Idea  
Identifying Supporting Details  
Ordering the Sequence of Events  
Locating Facts  
Understanding Figurative Language  
Using Context Clues

Drawing Accurate  
Conclusions  
Identifying Persuasion  
Making Accurate  
Inferences  
Identifying Mood

The design of the program is based on the required 800 minutes of contact time that is required by the ACE department to be able to offer one credit hour to the student. This is broken down into a four week course, meeting twice a week for 100 minutes or each class session is 1 hour and 40 minutes in length. Both of the courses (math and reading) have the same basic methodology for delivering of course material. Each session has a lecture or presentation on one or more of the competencies previously identified. There is class work which may be individual or small group activities. Homework is assigned and reviewed in class to reinforce the competencies that are being addressed. Each of the competencies and class sessions are enhanced by outside assignments in either the NovaNet or Audio Visual Tutorial (AVT) lab.

NovaNet is a computer based educational system that is connected to the University of Illinois Education Research Laboratory. It offers over 12,000 hours of instructional material that has been developed in over 100 subject areas, serving student populations ranging from grammar school to the college and graduate school levels.

The AVT lab is equipped with slide sound equipment and material developed by the Psychological Corporation, Learned and Tested. This material reinforces the identified competencies by adding an audio component in giving instruction and directions to the student which may be repeated upon student demand.

Both the NovaNet and AVT are Open Entry/Open Exit labs that allow the student to access the lessons that have been recommended to them at any time. These labs are open from 7:30 am to 6:00 pm five days a week which gives the student the flexibility of self scheduling into these areas and leaving at their own discretion. By using these three methods, classroom instruction, computer aided instruction, and audio visual instruction it provides the student with different options as how to learn the material.

The format of this program fits well into the larger design of Dawson's training and student services departments. All students are tested with the TABE by the Student Services Department prior to entering a training program or being seen by the Academic Support units. If the student does not meet entering grade requirements for training they will be retested once completing some type of developmental Adult Continuing Education, or tutorial program. This pre-post use of the TABE indicates the amount of change the student has made and offers an evaluation tool administered by a department outside of the unit that is offering the classes. Once the student is at the appropriate grade level they can enter the training program. The certificate of skill mastery that is issued each student is also used by the training department to identify the individual specific abilities in math and reading.

There has been six sections of reading and math with 126 students enrolled in the program. Of those enrolled 82 have completed the four week course and continue to work on their individual education plans through NovaNet or AVT at their own pace. 65 of the students have been retested with the TABE test with a range in grade level gain between 2 months to 2.3 years with the average of a 6 month gain. 34 of the students have met the entering requirements and are now in a training program.

This program has been developed for the adult learner who are returning to school to learn specific employable skill and have not met the entry grade level requirements. It has shown its effectiveness in meeting this need for about a third of the group entering this program. Of those students not completing the program or not obtaining the grade level these courses have not met their needs. This program is not the best placement for the English as a Second Language student, or the adult that is reading below the literacy level. Both these student populations should have classes focused on their specific needs. In the future students will be counseled into other programs to help them meet their educational goals.

# FACT SHEET

## History

Dawson Technical Institute is a unit of Harold Washington College, one of the City Colleges of Chicago. In 1973, the building was dedicated to U. S. Congressman William L. Dawson. Dawson was constructed to provide skills training originally under the auspices of MDTA and later C.E.T.A. In 1985, Dawson Skill Center became part of Chicago City-Wide College, and was renamed the William L. Dawson Technical Institute.

## Mission

Dawson Technical Institute is a community-based institution whose primary mission is to provide short-term intensive training in business, health, foodservice and industrial occupations which will focus on providing skills that students will need to find employment or advance in their careers.

## Programs of Study

The following programs are currently being offered at Dawson Technical Institute.

Health/Homemaker Aide	Chef Training, Culinary Arts
Certified Nursing Assistant	Certified Armed Guard
Licensed Practical Nursing	Offset Printing
Clerk Typing	Machine Shop/Tool & Die
Medical Transcriptionist	Computerized Numerical Control
Office Information Processing	Electronic Technology

## Population Served

In addition to these programs, we offer various other courses and the Adult Learning Skills Program (ABE, GED, ESL).

Students who attend the Dawson Technical Institute come from all over the Chicagoland area and even from some nearby southern suburbs and Northwest Indiana. Seventy-three percent (73% of the students) are over the age of 25 and come to Dawson with career goals in mind.

## Accreditation

Dawson Technical Institute through Harold Washington College, is accredited by the North Central Association of Colleges and Schools and approved by the Illinois Community College Board and the Illinois Office of Education Department of Adult, Vocational and Technical Education.

For More  
Information  
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Harold Washington College  
One of the City Colleges of Chicago