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ABSTRACT

A computerized information retrieval system has been designed to support the secondary school counseling effort. The system, entitled Total Guidance Information Support System (TGISS), runs on an IBM System/360 Model 65 facility and uses the IBM 2848 Display Control Unit. The software consists of an interactive communications program developed in the Filling and Source Data Entry Techniques for Easier Retrieval (FASTER) macro language, along with supporting file generation and maintenance programs. After entering a security password, the counselor keys one of 14 inquiries into an IBM 2260 Display Station; the response is a formatted report displayed on a cathode ray tube. In addition to a student psychograph, information may be retrieved regarding the student's personal background, his transcript and grade point average, current schedule, standardized test scores, interests, health record, and work experience. (PB)

# HUMANIZING EDUCATION THROUGH GUIDANCE COUNSELING

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## INTRODUCTION

Humanizing education is a vital key to the modern academe. It can be exemplified by the personalization of the total student-institution relationship. With the introduction of computers into the educational environment many have feared, and then realized, an impersonal separation of student and teacher. The past five years have witnessed an enormous computer aided, computer assisted, computer guided, and computer monitored push. Most systems, developed in a light of experimentation and research, left the student with a less than conversational interface with education. A few systems endeavored to aid those in the academic professions rather than their students. Systems aimed at better measurements, time savings, and better reporting resulted in better teacher student interaction because of a reduced clerical load on the teacher. These concepts as well as a few superb examples of computer-student educational processes are "humanized education through the use of the computer utility."

Counseling has continually played an important role in the secondary educational level. Through the high school counselor, the student in search of academic or personal guidance can find a one-to-one conversation with an interested and fluent trained professional. Many potential problems are nipped in the bud within the counselor's office. Students hesitate to interact with anyone not on his peer level. Thus, when the counselor is finally sought, it is critical that this counselor have the proper information about the student immediately so that the guidance counseling can be effective before the student backs down on his search for assistance. This need for information retrieval lends itself to computer solution. The recognition of this solution brought forth the Total Guidance Information Support System (TGISS) for secondary educational counseling support.

TGISS was developed through a grant from the U. S. Office of Education to Dr. T. L. Roberts of Oklahoma State University. Computer hardware and software support was given through the University Computer Center under the direction of Dr. Robert Gumm.

TGISS offers counseling support as a functional inquiry system. Secondary services offered through the system include an interactive job selection game, and a survey of available jobs. These segments are aimed at the student rather than the counselor and provide a surprisingly valuable role in the TGISS package of services.

To use TGISS the counselor keys his inquiry into an IBM 2260 Display Station. The response to this inquiry is a formatted report displayed on the cathode ray tube. Information available for display comprise a student data record. This



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information includes data such as personal statistics, transcriptural records, grade point averages and summaries, grade trends, interests, performances, honors, health profiles, and work experience. Display occurs within seconds of the request. Should a hard copy of the displayed information be needed it can be retrieved via a teleprinter setting next to the IBM 2260. This inquiry/retrieval/print design has resulted in a very useful educational support system.

Hardware Configuration

The TGISS support was initially offered under Operating System (OS) on an IBM System/360 Model 50. Later, independent of TGISS requirements, the central facility was expanded to an IBM System/360 Model 65.

When using a remote application with an IBM 2848 Display Control Unit there is a limit of eight display stations which can be attached. Each of these must lie within a 1,000 foot cable distance of the control unit. This requirement holds true for operation under a local arrangement also. However, should support be provided for the IBM 3270 Display Stations the eight unit limitation is no longer applicable.

Of course, TGISS does not require a Model 50 central processing unit for operation. A smaller CPU could be used if operating under OS. Support under DOS is feasible but has not been attempted.

Software Support

The software used in TGISS consists of an interactive communications program developed in the Filling and Source Data Entry Techniques for Easier Retrieval (FASTER) macro language, along with several supporting file generation and maintenance programs. The system will run under the Disk Operating System (DOS) or the Operating System (OS) for the System/360 or System/370 series of computers. The decision to use FASTER was based upon its accessability, hardware requirements, storage requirements, modularity, and ability to handle index-sequential data files.

The TIGISS FASTER program was developed to handle twenty-nine Transaction Processing Descriptions (TPD) which offer the user fifteen different retrieval modes. Each mode will be described later. A few options which are available cannot be processed through the macros of FASTER. These exceptions were coded in Assembler Language and are called through a user exit provided in the FASTER system. This enabled the entire interactive package to be developed and run as a single module while the actual code was developed using two different languages.

The final TGISS FASTER program is run from the IBM 2361 Large Capacity Storage in a region of 106,496 bytes allocated under Multiprogramming with a Variable Number of Tasks (MVT). The system used one port of the IBM 2701 Data Adapter Unit and four files stored on an IBM 2314 Direct Access Storage Facility.

Operation Procedure

The procedures for a TGISS terminal operator are quite simple. To use the system the individual must initially enter a security password. Once cleared for inquiry the counselor has fourteen different possible inquiries for every student in the school. A particular retrieval is made by typing a four digit abbreviation of the retrieval type followed by the student number of the selected individual. The display results yielding the desired information.

The available counselor retrieval commands are described here. Sample displays of each are available from the author.

GNRL: General Information - To retrieve the counselor enters 'GNRL/ student number'. The response to this retrieval yields such personal information as:

| | |
|---|---|
| Sex | Father's Name |
| Race | Mother's Name |
| Birthdate | Father's Employer |
| Age | Father's Business Phone |
| Address | Mother's Employer |
| Home Phone | Mother's Business Phone |
| Religion | Doctor's Name |
| | Doctor's Phone |

TR78: Student Transcript 7th and 8th Grades - To retrieve the counselor enters 'TR78/student number'. The response to this retrieval yields the transcript information for the selected student's seventh and eighth grade record. Included are the course name, course number, first semester's grade, and second semester's grade for each of the courses taken in the two year interval.

TRAN: Student Transcript - To retrieve the counselor enters 'TRAN/student number'. The response to this request yields the transcript for the selected student. Items included are the course name, course number, first semester's grade, second semester's grade and the number of course credits. This information is comprehensive for grades nine through twelve.

GPAS: Grade Point Average Summary - To retrieve the counselor enters 'GOAS/student number/quarter number'. The response to this retrieval yields the overall grade point average, area grade point average, nine-week grade point average and area of major emphasis for the selected student.

OGPA: Overall Grade Point Average - To retrieve the counselor enters 'OGPA/student number'. The response to this request yields the overall grade point average for each year of secondary education the selected student has completed.

GRDT: Grade Trends - To retrieve the counselor enters 'GRDT/student number'. The response to this retrieval yields the students yearly grade point, progressive overall grade point average and an indicator of grade point trend for each of the grades completed. The trend indicator is a plus or minus sign showing an increase or decrease in grade point average.

CURS: Current Schedule - To retrieve the counselor enters 'CURS/student number'. The response to this retrieval yields the student's current daily school schedule. Each course is listed by name, room location, period and teacher.

SDTS: Standardized Test Scores - To retrieve the counselor enters 'SDTS/ student number'. The response to this retrieval yields the student scores from the Kuhlman Anderson Intelligence Test, Science Research Associates Tests, and the Differential Aptitude Tests.

IPHS: Interests, Performance and Honors - To retrieve the counselor enters 'IPHS/student number'. The response to this retrieval yields a list of those interests, performance and honors associated with the student's activities.

HLTP: Student Health Profile - To retrieve the counselor enters 'HLTP/ student number'. The response to this request yields a rating of the selected student's eyes, ears, heart, feet, teeth, respiratory system and growth.

HLRD: Health Record - To retrieve the Counselor enters 'HLRD/student number'. The response to this retrieval yields the student's history of major diseases, vaccinations and dates of incidence.

WRKX: Work Experience - To retrieve the counselor enters 'WRKX/student number'. The response to this retrieval yields the selected student's work history. Each job held is listed by type of employment and its paid or voluntary status.

UPDT: Update - The counselor can update a student's record by entering 'UPDT/student number'. He follows this request with the location within the student record for which a change is desired and the new data for the record. All updates are typed out on the IBM 1053 Printer for accurate record keeping.

PSYC: Student Psychograph - To retrieve this graph the counselor enters 'PSYC/student number'. This output includes a perceptual index of dimensional concerns for each student. This yields a comparison of how the student feels versus what the student's ideals are for seven different indexes. The areas of evaluation are:

| | |
|---|---|
| Agreeableness | Obstructiveness |
| Dominance | Submission |
| Persistence | Changeableness |
| Sociability | Shyness |
| Calmness | Emotionality |
| Masculinity | Feminity |
| Enthusiasm | Slowness |