(54) Title: SYSTEM AND METHOD FOR TEST-INEFFICIENCY ANALYSIS AND IMPROVEMENT VIA A COMPUTER-BASED LEARNING ENVIRONMENT

(57) Abstract: A method and system for the identification, the measurement, the analysis, and subsequently the improvement of testing inefficiency is disclosed. In a data communications network users client systems connect to server systems in order to take tests designed to identify testing inefficiency of the users. The tests provide test performance data to the server system. The data is analyzed and the users are assigned a personality profile associated with personality training procedures recommended to be practiced to improve the testing inefficiencies of the users.
SYSTEM AND METHOD FOR TESTING-INEFFICIENCY ANALYSIS AND IMPROVEMENT VIA A COMPUTER-BASED LEARNING ENVIRONMENT

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

The present invention relates to computer-based learning and assessment systems, in general and to a system and method which identifies and improves the testing-inefficiency of an individual via an computer-based learning environment, in particular.

APPENDIX

Attached hereto, please find an Appendix A, which includes two exemplary tables associated with an exemplary implementation of the present invention. The first included table is a list of exemplary Personality Training (PT) modules with the appropriate descriptions thereof and the associated functional procedures. The second included table is a list of exemplary Personality Profiles (PP) with the appropriate descriptions thereof and the associated operative conditions.

DISCUSSION OF THE RELATED ART

In order to determine the extent to which educational objectives are achieved formal learning system include well-designed, efficient, and objective tools for monitoring the progress of and assessing the overall accomplishments of an individual learner. Although a number of alternative assessment methods are available, practically all current formal learning systems utilize conventional examinations or tests as the principal monitoring and assessment technique. Tests are quantitative instruments implemented in several alternative formats, such as oral tests and written tests. Tests may be assigned periodically during the curriculum or at the completion of the curriculum and include written assignments, essay questions, multiple-choice questions, and the like. From the testers’ point of view the conventional (oral, written, or computer-based)
examination or testing is probably the most effective technique for the evaluation of the individual learner's advance and achievements. In modern society practically all individuals are tested continuously during the active periods of their lifetime. Primary schools, high schools, and colleges of higher education assess the attainment of the students through tests. Typically, the taking of one or more tests is required to gain useful employment. Once employed an individual is required to take additional tests as long as he/she desires professional advancement and associated financial benefits, such as being promoted and/or getting a higher salary. Frequently, as a result of the accelerated pace of technological progress, employees are required to go through professional courses and to take the associated tests in order to remain usefully employed. Thus, the importance of the tests to an individual cannot be underestimated. Typically, individuals are commended or condemned solely on the results of a few tests. Unfortunately in many cases the testing process is not just the means, but the end in itself, and the learners who performed badly as a result of their testing inefficiency – even though they had acquired the knowledge in the necessary subject matter – are condemned. However, the results of the testing depend on two factors: a) how well the tested individual knows the subject matter and b) how well the tested individual performs during the actual testing procedure. It is commonplace that in order to pass a test successfully suitable pre-test preparations have to be made by the individual to be tested, such as studying the subject matter thoroughly. Not so widely known that the test results can be optimized through the application of effective personality-specific techniques during the performance of the test.

Tests are inherently inflexible instruments. No concessions are made for individuals who may know the subject matter, but are not “test-wise” and thus perform less than satisfactorily during the test. Currently, a plurality of solutions exists that facilitate the teaching and acquisition of the necessary knowledge of the subject matter. It is the second factor, the teaching and acquisition of the test-taking skills, which is lacking. Yet those skills are teachable and acquirable.
Several techniques utilized during the test can substantially improve the ability of the individual to perform the test such as to make sure that the test scores reflect what the subject has learned. The practice of such techniques is specifically suited for computer-based and Web-based solutions, which can provide the learners with the option of optimizing the test scores to a level substantially commensurate with their knowledge. Currently, a plurality of test preparation methods and solutions are available in the market including software learning systems operating in a computerized environment. However, none of the existing solutions resolves the unique diversity of the problems facing a plurality of learners having testing inefficiency.

SUMMARY OF THE PRESENT INVENTION

One aspect of the present invention regards a computing and communications environment accommodating at least one client system connectable to at least one server system and a method for analyzing and improving testing inefficiency characteristics of a user. The method includes identifying at least one user having testing inefficiency, determining the testing inefficiency-specific personality profile of the at least one user, and providing at least one testing inefficiency-specific personality training exercise to the at least one user.

A second aspect of the present invention regards a computing and communications environment accommodating at least one client system connectable to at least one server system, and a system for analyzing and improving testing inefficiency characteristics of a user. The system consists of personal training solution handler component, and a personal training solution table.

The present invention also provides for the dynamic identification and analysis of the testing inefficiency. The present invention also provides for the adaptive assignment of a testing inefficiency-specific personality profile to the user having testing inefficiency. The present invention provides for the improvement of the identified and analyzed testing inefficiency through the

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dynamic allocation of personality training procedures for performance and practice to the user having assigned personality profile.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be understood and appreciated more fully from the following detailed description taken in conjunction with the drawings in which:

Fig. 1 is a semi-pictorial block diagram of an exemplary computing and communicating environment in which the proposed TIAI system and the method thereof can operate, in accordance with a preferred embodiment of the present invention; and

Fig. 2 is a detailed block diagram of the software components functional to the operation of the proposed TIAI system and method thereof, in accordance with a preferred embodiment of the present invention; and

Fig. 3 is a simplified flow chart illustrating the main logical flow of the TIAI application, in accordance with a preferred embodiment of the present invention; and

Fig. 4 is a simplified flow chart showing an exemplary flow of the operation of the testing module, in accordance with a preferred embodiment of the present invention; and

Fig. 5 is a simplified flow chart showing an exemplary flow of the operation of the PT module, in accordance with a preferred embodiment of the present invention; and

Fig. 6 illustrates a visual frame representing the standard TIAI login page, in accordance to a preferred embodiment of the present invention; and

Fig. 7 illustrates a visual frame representing the TIAI user-specific personal page, in accordance to a preferred embodiment of the present invention; and

Fig. 8 illustrates a visual frame representing a typical TIAI test page, in accordance to a preferred embodiment of the present invention; and
Fig. 9 illustrates a visual frame representing the TIAI user-test-specific report page, in accordance to a preferred embodiment of the present invention; and

Fig. 10 illustrates a visual frame representing the TIAI personal page including the PT modules recommended to be practiced by the user, in accordance to a preferred embodiment of the present invention; and

Fig. 11 illustrates a visual frame representing a TIAI user-specific PT module page, in accordance to a preferred embodiment of the present invention; and

Fig. 12 shows the PP vs. PT table connecting the pre-determined personality profiles (PP) with the required personality training (PT) modules.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

A method and system for measuring, analyzing, and improving testing inefficiency is disclosed. In a data communications network a user or a plurality of users operating computing and communicating platforms, such as personal computers, intermittently connect to a server system or systems implemented on a computing and communications platform in order to improve test-taking skills. The server system includes diverse software tools operative in measuring, identifying, analyzing, and improving the potential testing inefficiency of the plurality of users. The test-taking skill measurements are collected by enabling the users of the system to perform standard and known tests, and dynamically capturing test-performance data during the performance of the tests. The captured and collected information is dynamically analyzed in order to determine the test-taking skill level of the users. Specific test-taking-related weaknesses, "bad" habits, certain personality characteristics associated with the users are identified, formalized, and organized. In accordance with the resulting conclusions the users are assigned specific testing inefficiency personality profiles. The users are appropriately informed of the analysis results and provided with the option of
improving their test-taking skills by performing personality profile-specific personality training procedures. The procedures are operative in providing the users with a set of practice runs designed to assist the users to avoid testing inefficiency-related habits, to overcome personal weaknesses, and to correct common behavioral errors. The procedures consist of sections of test problems to be solved where the grouping of the problems, the number of the problems, and the required pacing for solutions are adapted specifically to the associated personality profiles. Consequent to the completion of the personality training procedure the users are provided with the option of repeatedly performing the standard test. During the repeated test the captured, collected, processed, and analyzed test-performance data is operative to re-assign new (preferably improved) personality profiles to the users. Thus, the proposed system and method enables the users to substantially improve their test-taking skills by providing adaptive test inefficiency training.

In the preferred embodiment of the present invention the data communications network is the Internet and more specifically the World Wide Web (Web), the computing platforms are personal computers (PCs), and the users are students active in the pursuance of the studies thereof. In would be easily understood that in other embodiments of the present invention diverse other communications networks could be utilized for the operation of the proposed system and method, such as a cellular telephone network, a satellite communications network, a local area network (LAN), a wide area network (WAN), and the like. In other embodiments of the present invention diverse other computing and communicating platform could be utilized, such as workstations, laptop computers, Personal Digital Assistants (PDAs), WAP-enabled cellular devices, interactive TV devices, game consoles, and the like. The servers maybe located at the any suitable location within the network. It can also be located within an organization providing in-house training. Alternatively training can be provided to a number of organizations utilizing a server located on a node accessible to the participating organization's clients (or students). The users of the
system could be individual learners or organized groups of learners associated with various educational, governmental or business organizations, such as high schools, universities, private schools, corporations, business enterprises, public agencies, and the like. The subjects tested by the standard tests could range from known educational examinations, such as the various SAT examinations in U.S., to technical training, advanced-degree studies, or the like. The following description is presented in order to provide a clear understanding of the proposed system and method and should not to be interpreted as limiting in any way.

Referring now to Fig. 1 illustrating an exemplary computing and communications environment that could be utilized as the basic framework for the operation of the proposed system and method, in accordance with a preferred embodiment of the present invention. Workstation 10, personal computer 12, and laptop computer 14 are client devices utilized by human operators. In order to interact with specific remote information content stored within the communications environment the users of the client devices 10, 12, 14 are periodically initiate connections to remote network devices. Subsequently, client devices 10, 12, 14 are intermittently linked to server devices 18, 20, 22 via suitable communications links, and via a data communications network 16. In the preferred embodiment of the present invention the communications links are standard wired communication lines, such as twisted pair, coaxial cables, fiber optic cables, of hybrid fiber optic-coaxial (HFC) cables and the like. In other embodiments of the present invention wireless links could be utilized, such as radio links, infrared links, and the like. The server devices 18, 20, 22 are computing devices containing server software designed to serve content-requesting client devices within the data communications network. The server devices 18, 20, 22 are connected to databases 24, and 26 in order to send data for processing and storage thereto and receive data processed and stored to be forwarded to requesting client systems. Databases 24, 26 could be collocated with the server software on server devices 18, 20, 22 or could be installed on separate computing platforms. Server devices 18, 20, 22 could be dedicated to the
running of a specific application or could be general-purpose machines implementing and running a plurality of diverse applications. The workload on server devices 18,20,22 could be suitably equalized by appropriate load-balancing software. Although only a limited number of client devices, communication links, server devices, and databases are shown on the currently discussed drawing it would be understood that in a realistically configured network a plurality of client devices could be connected to a plurality of servers devices and databases via a plurality of communication lines. In the preferred embodiment of the present invention the data communication network is based on the client-server (C/S) model. In the C/S model users of client devices in a network have the capability of interacting with server devices across the data communications network by submitting suitably structured requests for specific data and/or services and/or applications. The proposed system and method provides a set of server-based application programs and associated data structures constituting the Testing Inefficiency Analysis and Improvement (TIAI) system. The TIAI system is implemented on one or more TIAI server devices across the data communications network. Client devices are provided with the capability of connecting to the TIAI servers and interacting with the data through the specific set of specially developed application programs.

Referring now to Fig. 2 which shows a detailed block diagram of the functional components constituting the proposed system. The TIAI system consists of a TIAI client 28, a TIAI server 44, and a database server 68. In the preferred embodiment of the present invention the TIAI client 28, the TIAI server 44, and the database server 68 are implemented on separate computing platforms. In other embodiments of the present invention the TIAI server 44 and the database server 68 could be co-located on a single computer platform. TIAI client 28 is preferably implemented on a computer device, such as a personal computer (PC), a laptop computer, a workstation, a PDA, an WAP-enabled cellular device, or any other device having computing and communicating capabilities. The TIAI client 28 is utilized as the front-end to the user thereof. The TIAI client 28 typically
includes but not limited to an I/O device 30, an audio device 31, a display device 33, a Processing Unit (CPU) device 34, a communication device 36, and a storage device 38. TIAI client 28 can also include a biometrics device 32. CPU device 34 is the central unit of the computer containing the logic circuitry that performs the instructions of a computer’s programs. I/O device 30 is operative in transferring data from the computer to peripheral devices and from peripheral devices to the computer. Typical I/O devices are printers, display screens, hard disks, keyboards, and pointing devices, such as a mouse. Audio device 31 contains a special built-in processor and memory for processing audio files, such as records of captured sound, and sending them for replay to speaker devices in the computer. Biometric device 32 could be utilized for measuring and analyzing human body characteristics such as fingerprints, eye retinas and irises, voice patterns, facial patterns, and hand measurements typically utilized for user authentication. Device 32 could be a fingerprint reader such as manufactured by Compaq Corp. Display device 33 is utilized as the user interface by displaying text or graphics on a physical display area such as the computer monitor screen. Communications device 36 is operative in communicatively connecting client 28 to a data communications network. Device 36 could be a modem or a Network Interface Card (NIC). Storage device 38, which is preferably a hard disk or a memory device can contain an operating system 40 and a client application 42. The operating system 40 is a control program that manages the operation of all the other programs on the computer platform. In addition system 40 performs various services for the client applications, such as sharing the memory, management of the input/output, controlling of the multi-tasking, and the like. In the preferred embodiment of the invention, system 40 is the Windows NT system, or the Windows 2000 system, developed and distributed by the Microsoft Corp. In other embodiments of the invention, operating system 40 could be any of the known operating systems, such as UNIX, Linux, Solaris, Windows 98, Windows CE, diverse mobile operating systems (OS), and the like. Client applications such as client application 42 are programs that perform specific applications for the users
of the client. Client application can be a browser application, which is central to
the preferred embodiment of the present invention. Client application 42 enables
the user of client 28 to interface with the network. Client application 42 submits
request for data or services or applications to information provider sites across the
data network, receives the requested data or services or applications and sends the
received information to be displayed to the user. Thus client application 42 enables
the user to interact with the received content. A number of known
browsers could be utilized as client application 42, such as the Microsoft Internet
Explorer (MSIE), or the Netscape Navigator developed and distributed by the
Netscape Corp. Still referring to Fig. 2 TIAI server 44 is implemented on a
computer platform with computing and communicating capabilities. TIAI server
44 includes but not limited to an I/O device 50, a communication device 48, a
processing unit (CPU) device 46, and a storage device 52. I/O device 50 is
operative in transferring data from the computer platform to peripheral devices
and from peripheral devices to the computer platform. Typical I/O devices are
printers, display screens, hard disks, keyboards, and pointing devices, such as a
mouse. CPU device 46 is the processing unit of the computer platform containing
the logic circuitry that performs the instructions of a computer's programs.
Communications device 48 is operative in communicatively connecting client 28
to a data communications network. Device 36 could be a modem or a Network
Interface Card (NIC). Storage device 52 holds software programs and associated
data structures. Device 52, which is preferably a hard disk, includes but not
limited to a server 54 such as a Web server, an application server 56, and a TIAI
application 58. The Web server 54 is a back-end application that handles the
requests sent through the network by the client 28. In the preferred embodiment of
the present invention, the Internet Information Server (IIS) is used as web server
54. In other preferred embodiments diverse other servers could be used as web
servers, such as the Apache, or the like. In the preferred embodiment of the
present invention the application server 56 is the Microsoft Transaction Server
(MTS). MTS is a program that runs on an Internet or other network server with a

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Windows NT system and manages application and database transaction requests on behalf of a client computer user. The MTS screens the user and client computer from having to formulate requests for unfamiliar database and, if necessary, forwards the requests to database servers. In other embodiments diverse other application servers could be used such as an ISAPI DLL application, a CGI application, or the like. The TIAI application 58 includes but not limited to a user handler 60, a Personality Training (PT) solution handler 62, a database handler 64, and a management utility 66. User handler 60 provides service for users such as registration, display of personal pages, report pages, Personality Training (PT) pages, and the like. PT solution handler 62 collects and analyses test performance information, assigns Personality Profiles (PPs) to the users load, and launches the PT modules. Database handler 58 provides interface to the data structures associated with the TIAI application 58. Handler 58 maintains the suitable data files by sending data for insertion, update, and deletion from the TIAI application 58 to the database 68. Utility 66 provides system administration capabilities to the operator of the TIAI server, such as table maintenance, network failure recovery, backup, and the like. User handler 60 is receiving requests from a client 28 concerning delivery of the web pages and registration. It also accepts the data provided by the client 28 and transfers such data to the PT solution handler 62. Database handler 64 is an interface between the TIAI application 58 and the database server 68. Database server 68 includes but not limited to Relational Database Management System (RDBMS) 70 and the TIAI application database 72. RDBMS 70 is a program that provides the capability to create, update, and administer a relational database. An RDBMS takes SQL statements entered by a user or contained in an application program and creates, updates, or provides access to the database. The RDBMS 70 utilized by the TIAI system could be one of the known RDBMS's, such as Oracle's database, Computer Associates' CA-OpenIngres, and IBM's DB2. The TIAI application database 72 holds the data structures associated with the TIAI application 58. Database 72 includes but not limited to user registration table 74, user section completion table.
76, PT solution table 78, user scores table 80, user question/answer table 82, and answers table 84. User registration table 74 stores the personal details of the users of the TIAI system, such as user name, and the like. The structure and functionality of the tables will be described in detail in association with the following drawings. The user of the TIAI system interfaces with the application by submitting requests for and consequently receiving specifically developed Active Server Pages (ASP). An ASP is an HTML page that includes one or more embedded programs (scripts) that are processed on the Web server 54 before the page is sent to the user. ASPs involve programs that run on the server, tailoring a page for the user. Typically, the script in the Web page at the TIAI server 44 uses input received as the result of the TIAI client 28 request for the specific page to access data from the application database 72 and then builds or customizes the page dynamically before sending it to the requesting TIAI client 28. The ASP files are created by including a script written in VBScript or JScript in an HTML file or by using ActiveX Data Objects program statements in the HTML file. The ASP includes scripts for the loading of graphic files in various formats, such as FLASH, GIF, JPEG, or the like. The graphic files are utilized for multimedia presentations. COM is a programming architecture, a development tool, and a set of operating system services developed by Microsoft Corp. COM+ is an extension to COM. The COM/COM+ product family enable developers for building distributed program components or objects and provide underlying services of interface negotiation, and event services, such as putting one object into service as the result of an event that has happened to another object. In the preferred embodiment of the present invention, the TIAI application 58 includes specifically designed and developed COM/COM+ objects running in association with the application server 56. In other preferred embodiments of the present invention diverse other development tools could be used, such as Sun Microsystems’s Enterprise JavaBeans (EJB).

The user of a client device 28 of Fig. 2 desiring to interact with the TIAI application 52 of Fig. 2 will activate the client application 42 of Fig. 2 and
will submit a request to access the TIAI server 44 of Fig. 2 web site. The request typically includes the IP address of the site. The client application 42 of Fig. 2 connects the client 28 of Fig. 2 to the server 44 of Fig. 2. The request is suitably processed by the web server 54 of Fig. 2 and forwarded to the application server 56 of Fig. 2. Server 56 activates the TIAI application 58 main logic module 63 that effects the sending of the standard login web page of the application back to the client 28. The standard login page is inserted into the client application 42 cache and displayed to the user of the client 28 on the display device 33. The detailed structure and embedded operating options of the standard login page will described hereunder in association with the following drawings. The use interacts with the application 58 by selecting the predefined options embedded within the standard login page. According to the user’s selection other requests are sent to the TIAI server 44 and other pages are loaded, processed by the application server 56 in association with the TIAI database 72, and sent back for the client 28 to be displayed and interacted with. There are several types of pages, such as test performance pages, report pages, Personality Training (PT) solution pages, and the like. Through interaction with the application pages the user will dynamically and adaptively drive the flow of the application. The logical flow of the TIAI application is going to be described next.

Referring now to fig. 3, an exemplary logical flow of the TIAI application is illustrated. At step 121 the main module of the application identifies the user. The identification involves requesting the user to input one or more suitable identification string sequences, such as a name and a valid password. The main module examines the submitted identification and determines whether the user is authorized to use the system. If the user is unknown the main module will load and send a registration page for the user to be filled and submitted to the application. In contrast if the user is identified and authenticated then at step 122 the user’s personal page is assembled and sent to the client. The personal page is displayed on the display device enabling the user to interact therewith by selecting a pre-defined option embedded in the personal page. At step 124 the user
selection is received by the application and in accordance with the alternative selections at steps 126, 128, 129 the respective sub-modules 132, 134, 136 are executed. The execution of the sub-modules includes the assembly of alternative web pages to be sent to the client. Thus, when it is determined at step 126 that the user selected the option concerning the performance of a test then at step 132 the specific test module is loaded and executed. As a result one or more pages including a specific test is sent to the client. After the performance of the test module control returns to step 122 to re-display the user’s personal page. If it is determined at step 128 that the user selected the option concerning the performance of a Personality Training (PT) module then at step 134 the specific PT module is loaded and executed. As a result one or more pages including a specific PT module is sent to the client. After the performance of the PT module main module control returns to step 122 to re-display the user’s personal page. At step 129 it is determined that the user selected the option concerning the display of the report page. Consequently at step 135 the user-specific report page is assembled and sent to the client. After the user suitably indicates that he completed the reading the report page, program control returns to step 122 to re-display the user’s personal page.

Referring now to Fig. 4 showing an exemplary flow of the execution of the test module (step 132 of Fig. 3). The flow describes a simplified sequence of operations after the user indicates that he desires to perform a specific test. At step 142 the test module is loaded and activated. At step 144 the module accepts the solution of a test section by the user. During the performance of the test suitable performance data is collected. Performance data includes information concerning the correctness of the solution for each specific problem included in the test section, the time taken to solve the problem, the pacing of the problem solving, the order in which the problems were handled by the user, and the like. After the completion of the section the steps 146 through 150 handle the analysis of the performance data. At step 146 the performance data is stored, at step 148 the performance data is suitably analyzed, and at step 150 the report page, and the
personal page is updated in accordance with the results of the analysis. The details of the analysis process and the resulting conclusions will be described hereunder in association with the following drawings. At step 152 it is determined whether more test sections remain to be performed. If no more sections left to solve then control return to the main program at step 154. In contrast if there more test sections left to solve then module control returns to step 144 to repeat the loop across steps 144 through step 152 as long as there are more test sections left. Note should be taken that the test performance proper is executed on the TIAI client while test performance analysis is executed asynchronously on the TIAI server after the reception of each test section-specific performance data. Consequent to the analysis of the user-specific test performance data the user is dynamically assigned a personality profile (PP). The personality profile (PP) indicates the current testing inefficiency characteristics of the user. In accordance with the PP assigned the user is notified that certain Personality Training (PT) modules could assist in improving the current testing inefficiency. The list of recommended PT modules are inserted into the user-specific report page in order to be displayed to the user. In addition graphical indicators associated with the recommended PT modules is inserted into the personal page. Thus, after the completion of each test the user-specific report page includes text describing the PT modules recommended to perform and practice, and the personal page includes icons that are operative in connecting the user to the PT modules. The detailed structure and functionality of the report page will be described hereunder in association with the following drawings.

Referring now to Fig. 5 showing an exemplary flow chart of the execution of the PT module (step 134 of Fig. 3). The flow chart describes a simplified sequence of operations after the user indicates that he desires to activate a specific PT module. At step 162 the specified PT module is loaded and activated. At step 164 a problem included in the PT module is displayed to the user. At step 166 the solution of the PT problem is accepted, and checked for correctness at step 168. At step 170 a PT module state variable is updated. At step
170 it is determined whether there are more problems in the current PT module. If no more problems remained to be solved then at step 174 control returns to the main program. In contrast, if more PT problems remained to be solved then the module control proceeds to step 164 to execute a program loop across steps 164 through step 172 as long as more problems remained to be solved. Note should be taken that the detailed structure and functionality of a PT module page will be described hereunder in association with the following drawings. A TIAI session is a series of interactions between the TIAI client and the TIAI server that occur during the span of a single network connection. Typically, the TIAI client requests a connection with the TIAI server and if the server replies agreeing to the connection, the client and the server take turns exchanging commands and data. The TIAI session begins when the connection is established at both ends and terminates when the connection is ended. Thus, the user of the TIAI client interacts with the TIAI application for the duration of a TIAI session. During the TIAI session the web pages sent by the TIAI application and received by the browser application of the TIAI client are displayed on the screen of the display device of the client platform. The web pages are operative in guiding the user closely and unambiguously through the desired stages of the TIAI session by the use of specific menus and/or distinct graphical symbols. The structure and functionality of the web pages associated with the TIAI session will be described next.

Referring now to Fig. 6 showing a visual frame representing a typical web page as displayed to the user of the TIAI client. The display frame 182 includes browser specific background elements, such as a title area 181, background area 185, and a TIAI page 183 received from the TIAI server and displayed on the background. TIAI page 183 is the standard login page of the TIAI application. The page 183 is transmitted to the client subsequent to the establishment of a network connection between the TIAI client and the TIAI server at the beginning of a TIAI session. The login page 183 is operative in visually introducing the TIAI system, enabling the introductory exploration of the
system by a casual “visitor”, providing the option of logging in into the TIAI system by the registered users, and the option of registering for new users. The page 183 includes but not limited to a TIAI server site address display area 188, an introductory and promotional text area 180, a individual login area 184, a group login area 186, and a registration indicator 187. Most areas and items included in the page are self-explanatory. In order to gain access to the TIAI server and the associated TIAI application i.e., “logging in”, the user has to submit the identification thereof, such as a name and a password. The required information is inputted into the respective sub-windows located in individual login area 184 or in the group login area 186. Consequently, the user indicates to the client application that the current login page 180, which includes the proper user identification, should be submitted to the TIAI server. The indication is achieved typically by pointing at a specific graphical indicator referred to typically as a “button” and denoted as the “SUBMIT” button and clicking on the pointing device. Consequently the page 183 is sent to the TIAI server and suitably processed, such as attempting to identify the user, and the like. Consequent to a successful login the TIAI application sends to the client a user-specific personal page. The personal page enables the user to select one out of several operating options. The selection is accomplished via the suitable operation of the pointing device. By pointing at a specific visual structure displayed on the page with the pointing device and finalize the selection by clicking the desired option is selected. The performance of the different options may effect dynamic modification of both the personal page and the report page. Therefore, subsequent to the performance of each selected option the TIAI application re-displays the dynamically modified personal page.

Referring now to Fig. 7 showing a visual frame that includes the user-specific personal page. Frame 192 includes but not limited to a personal page 196 transmitted by the TIAI application. Page 196 includes but not limited to a personalized message area 194, a test status and activation area 198, and a PT module information area 200. Message area 194 includes text targeting the
specific user of the page 192. The PT modules information area 200 can display a list of PT modules recommended for performance and practice by the user. Test status and activation area 198 includes a list of tests that can be performed by the user. The list consists of lines where each line includes an identification of the test, and performance activation buttons. In order to take a test the "START" button is selected. The selection of the "REPORT" button affects the display of the test-specific report page. The other buttons are self-explanatory. Consequent to the selection of the "START" button in a specific test line the TIAI application transmits the relevant test page to the user. The page is organized into separate sections where each section includes several problems to be solved. The user can solve the problems in sequential order or could "skip" problems or "jump" to different sections of the page by using the scrolling bars or selecting a specific problem through the selection of the problem number displayed. During the performance of the test user-test-specific performance data is collected and analyzed by the application transparently.

Referring now to Fig. 8 showing a visual frame that includes the test page. Frame 202 includes but not limited to a menu bar 203, a scrolling bar 205, and a test page 204. The page 204 includes but not limited to test problem display and solution area 207, section identification area 206, timer display area 208, problem selection area 210, and termination indicator button 212. As a typical test can not be accommodated within a single display area, the area 207 is scrollable. The area 207 can be scrolled by the user utilizing the scrolling bars located in the area 207. The area 207 includes text and graphics associated with problems to solve and problem-specific answer selector buttons. Problems are identified by allocated serial numbers. Area 210 includes a list of the allocated serial numbers. When a problem is solved the associated serial number is deleted from the area 210. In addition the list of serial number in area 210 provides the user with the option of selecting a specific problem. By pointing at and clicking the relevant visual button the area 207 is automatically scrolled up or down until the desired problem is in view of the user. The section identification area 206, timer display
area 208, and the problem selection area 210 provide the user with useful information concerning the time remaining until the end of the test, the number of problems remained to be solved, and the like. Termination button 212 allows the user to exit the test page. Consequent to the completion of a specific test the personal page is re-displayed to the user. The user then could select the display of the report page by selecting the "REPORT" button on the test line. The report page provides the user with test-performance related information such as personal issues the user has to pay attention to. The issues are related to the time management and behavioral conduct of the user during the previously performed test.

Referring now to Fig. 9 showing a visual frame that includes the report page. Frame 220 includes but not limited to a report page 222. The report page includes a short explanation concerning the following information displayed, a list of personality issues and the descriptions thereof. The personality issues are identified by a Personality Profile (PP). The issues are determined by the collection and analysis of the test performance data. A single PP can have more than one personality issue. The personality profile identifications are specifically predetermined codes indicating approximately the type of the testing inefficiency-related personal characteristics, such as a "SLOW STARTER" for a user that tends to spend a long time on the leading questions. A description is attached to the personality identification to provide a more detailed explanation to the user. In the following text the predetermined codes will appear in upper-case characters enclosed by apostrophes. After the perusing the content of the report page, and a suitable indication by the user thereof, the personal page is re-displayed on the display device to the user. According the results of the testing inefficiency analysis and the determination of the user’s PP the personal page is modified via the insertion of specific icons indicating PT modules recommended to the user to perform and practice. The user then could select to practice a PT module by pointing at the desired icon with the pointing device and clicking.
Referring now to Fig. 10 showing a visual frame that includes the personal page. Frame 230 includes but not limited to a recommended PT modules display area 234. The additional items of frame 230 are substantially identical to the items described in association with Fig. 7. Area 234 includes icons representing PT modules recommended to practice to the user. The icons appearing in the currently discussed drawing are denoted as “THE PACER I” and “THE PACER II” in accordance with the codes identifying the PT modules recommended for practice that are associated with the PP assigned to the user as a result of the analysis of a prior test performance. The user could practice the recommended PT modules by pointing with the pointing device to the desired icon and clicking the pointing device’s button. Each PT module is associated with a specific procedure regarding the number of problems to solve, the order in which the problems are presented to the user, the manner of feedback provided by the system, and the like. A detailed description of several exemplary PT procedures will be provided hereunder in association with the following drawings.

Referring now to Fig. 11 showing a visual frame that includes the PT module page. Frame 240 includes but not limited to a PT module page 246. Page 246 includes but not limited to module identification area 241, a problem display area 242, an answering option area 243, an answer deletion button 244, and an answer-submitting button 245. The above mentioned areas and items are self-explanatory. Typically the problems are displayed to user sequentially according to a predefined order. In order to modify the PP the user can to re-take the associated standard test or some variation of the standard test.

Fig. 12 shows a two-dimensional table connecting the pre-determined personality profiles (PPs) with the required personality training (PT) modules. Both the PPs and the PT modules are denoted by specific codes indicating approximately the testing inefficiency related personal characteristics of a user and the basic method of a predetermined procedure that is associated with the PT module respectively. Each row in the table is associated with a PT module while each column in the table is associated with a PP. At the intersection of a specific
column with a specific row a specific indicator character can appear (e.g. the
class ‘X’) in order to signify that the PP requires a certain PT. For example,
the PP denoted as “FAST DRAWER (MATH)”, requires the performance and the
practice of the PT modules “PACER I (QUESTION)”, and “PACER II (BATCH):
MATH”. Each PT module includes a unique procedure that is designed to be
performed and if necessary repeatedly practiced by the user in order to improve
the test-taking skills thereof. A procedure includes a pre-defined set of exercises
associated with a pre-defined set of rules. Several examples of predefined
personality profiles (PPs) and associated PP-related Personality Training (PT)
modules will be given next.

Example I: “SLOW STARTER”
The personality profile “SLOW STARTER” is characterized by the
tendency to spend too much time on the leading questions. A user can be assigned
the personality profile “SLOW STARTER” according to pre-determined patterns
found in the test performance data. Thus, a user is assigned the PP “SLOW
STARTER” if and only if

a) The average time per question (TPQ) of the first four questions in
the list of questions solved in the a section (SOLVING LIST) is
greater than the average TPQ of the entire section by three seconds
or more

b) The condition defined above is true in section number 1.

In order to improve the testing inefficiency of the “SLOW STARTER”
personality the “APPETIZER” PT module to be applied. The “APPETIZER” is a
module that provides warm-up exercises to the user prior to taking the test. The
pre-defined procedure associated with the “APPETIZER” PT includes but not
limited to the following steps:

Step 1) A math exercise is presented to the user. If the answer given by
the user is incorrect then an additional math question is presented. If the answer
given by the user is correct then the module control proceeds to the next step
Step 2) A verbal exercise is presented to the user for a limited time. When the exercise is satisfactory completed by the user the module control proceeds to the next step.

Step 3) The user is presented with the message “You are warmed up and ready to start the test”.

Example 2: “SECTION FATIGUED”

The personality profile “SECTION FATIGUED” is characterized by the tendency of a user to get tired near the end of a test section. A user can be assigned the personality profile “SECTION FATIGUED” according to pre-determined patterns found in the test performance data. Thus, a user is assigned the PP “SECTION FATIGUED” if and only if

a) The correct answers as a percent of total answers in a certain sequence (%OFSUCCESS) in the last 25 % of the SOLVING LIST is smaller than the %OFSUCCESS in the first 75 % of the SOLVING LIST by at least 25 percentage points

b) The above condition is true with respect to two test sections or more.

In order to improve the testing inefficiency of the ”SECTION FATIGUED” personality the “MARATHON EXERCISER” PT module to be applied. The “MARATHON EXERCISER” is a module consisting of a varying number of stages. The description of the pre-defined stages associated with the “MARATHON EXERCISER” PT follows:

Stage 1) the user is required to solve 25 questions sequentially without skipping with a total time limit of 25 minutes. The questions are randomly selected from 5 different PTs and randomly ordered.

Stage 2) the percentage of the successful solutions is checked in the last five questions as opposed to the rest of the test. If the percentage of the successful solutions in the last five questions is no less than ten percentage points
lower than the percentage in the rest of the test the result of the test is “PASSED”. Else the result of the test is “FAILED”

Stage 3) if the result of the prior test is “FAILED” then the module control returns to stage 1. Else the module control proceeds to the next stage.

Stage 4) the user is required to solve 35 questions sequentially without skipping with a total time limit of 35 minutes. The questions are randomly selected from seven different PTs and randomly ordered.

Stage 5) the percentage of the successful solutions is checked in the last five questions as opposed to the rest of the test. If the percentage of the successful solutions in the last five questions is no less than ten percentage points lower than the percentage in the rest of the test the result of the test is “PASSED”. Else the result of the test is “FAILED”.

Stage 6) if the result of the prior test is “PASSED” then the module control returns to stage 5. Else the module control proceeds to the next stage.

Stage 7) The user is required to solve 30 questions sequentially with a total time limit of 30 minutes. The questions are selected randomly from 6 PTs and randomly ordered.

Stage 8) the percentage of the successful solutions is checked in the last five questions as opposed to the rest of the test. If the percentage of the successful solutions in the last five questions is no less than ten percentage points lower than the percentage in the rest of the test the result of the test is “PASSED”. Else the result of the test is “FAILED”.

Stage 9) if the result of the prior test is “PASSED” then the module control returns to stage 5. Else the module control returns to the stage 1.

Stage 10) when the user successfully completes 2 35-question tests the procedure terminates. Else the student has to solve tests of 25, 30, or 35 questions depending on his success in the prior tests.
## APPENDIX A

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pacer II (batch): math</td>
<td>Treats pace problems in math by presenting batches of questions with time allotment, and feedbacking the student after each batch.</td>
<td>Presents a set of six questions, measuring the time per questions and correctness of answer, and feedbacks after each question. Then presents 2 batches of 3 questions, measures time and correctness, and feedbacks. Then one batch of 6 questions with same measurement and feedback.</td>
</tr>
<tr>
<td>The pacer III (batch): verbal</td>
<td>Treats pace problems in verbal by presenting batches of questions with time allotment, and feedbacking the student after each batch.</td>
<td>Presents a set of six questions, measuring the time per questions and correctness of answer, and feedbacks after each question. Then presents 2 batches of 3 questions, measures time and correctness, and feedbacks. Then one batch of 6 questions with same measurement and feedback.</td>
</tr>
<tr>
<td>The pacer I (question)</td>
<td>Treats pace problems by presenting questions with time allotment, and feedbacking the student after each questions.</td>
<td>Presents variations of the same question and measures answering time. Then allot 10 seconds less after each correct response and 10 seconds more after each incorrect response.</td>
</tr>
<tr>
<td><strong>The shell shocker I:</strong> math</td>
<td>Recreates a state of shell-shock in math deliberately and feedback the student about his performance.</td>
<td>Continues until determining the student’s real pace. Then repeats with other questions.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>The shell shocker II:</strong> verbal</td>
<td>Recreates a state of shell-shock in verbal deliberately and feedback the student about his performance.</td>
<td>Presents a very difficult question with a short time allotting, and then 2 normal questions with a normal time allotting, and feedbacks on the correctness of the answers. Repeats 3 times.</td>
</tr>
<tr>
<td><strong>The Marathon exerciser</strong></td>
<td>Treats problems of fatigue by presenting a sequence of sections and measuring the student’s performance.</td>
<td>Presents a 25-question section with time allotting, and compares correctness of the last questions with correctness of the rest of the section as an indication of fatigue. If OK, continues to a 30-question section and compares the same. Continues generating sections according to fatigue: if fatigued, takes 5 questions off, if not, adds 5 questions.</td>
</tr>
<tr>
<td>Method</td>
<td>Description</td>
<td>Explanation</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SkipLess 1</td>
<td>Treats &quot;skippy&quot; problems by forcing the student to solve a sequence of questions without skipping</td>
<td>Presents 20 questions with time allotment, without allowing to continue or to go back until question is answered.</td>
</tr>
<tr>
<td>SkipLess 2</td>
<td>Treats &quot;skippy&quot; problems by forcing the student to solve a sequence of questions with a determined number of allowed skips.</td>
<td>Presents 20 questions with time allotment, allowing to skip up to only 3 times during the sequence.</td>
</tr>
<tr>
<td>SkipMore</td>
<td>Treats fixating and rigidity problems by forcing the student to skip questions in a section.</td>
<td>Presents a 6-question batch with time allotment suiting for only 4. 2 of the six questions are very difficult. The student has to choose wisely which questions to solve to get the best result.</td>
</tr>
<tr>
<td>Casino</td>
<td>Helps the student to use educated guesses during a sequence of questions.</td>
<td>Presents 10 questions in which the student has a very short time allotment per question to mark INCORRECT choices rather than correct ones.</td>
</tr>
<tr>
<td>Appetizer</td>
<td>Treats problems of slow starter and test phobic by presenting warm-up questions before the test.</td>
<td>When a &quot;sick&quot; student takes the next test, he is first prompted with a simple math question and a simple verbal question to &quot;work-out&quot; his...</td>
</tr>
<tr>
<td></td>
<td></td>
<td>brain, and only after succeeding in both questions, he is allowed to start the test.</td>
</tr>
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<td>---</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAME</td>
<td>DESCRIPTION</td>
<td>CONDITIONS</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Slow Starter     | It takes you too much time to get started! You tend to spend too much time on the first questions. | • The average TPQ of the first 4 questions in the SOLVING LIST is greater than the average TPQ of the entire section by 3 seconds or more.  
• The above condition is true in section #1 |
| Fast drawer in math | You draw *too* fast! You move too quickly at the beginnings of sections. | • The total time for the first $\frac{\text{# of questions in section}}{2}$ in the SOLVING LIST is at least 120 seconds less than ½ of the allotted time for the section.  
• % OF SUCCESS of the first $\frac{\text{# of questions in section}}{2}$ in the SOLVING LIST of a section is 80% or less.  
• The above conditions are true in 1 section of math |
<p>| Fast drawer in verbal | You draw <em>too</em> fast! You move too quickly at the beginnings of sections. | • The total time for the first $\frac{\text{# of questions in section}}{2}$ in the SOLVING LIST is at least 120 seconds less than ½ of the allotted time for the section. |</p>
<table>
<thead>
<tr>
<th></th>
<th>% OF SUCCESS of the first $\frac{# \text{ of questions in section}}{2}$ in the SOLVING LIST of a section is 80% or less.</th>
<th>The above conditions are true in 1 section of verbal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tortoise in math</td>
<td>You are too slow! You answer too few questions in the allotted time.</td>
<td># of items in SOLVING LIST is 80% or less of # of items in QUESTION LIST, in a certain section.</td>
</tr>
<tr>
<td>Tortoise in verbal</td>
<td>You are too slow! You answer too few questions in the allotted time.</td>
<td># of items in SOLVING LIST is 80% or less of # of items in QUESTION LIST, in a certain section.</td>
</tr>
<tr>
<td>Shell-Shocked in math</td>
<td>You tend to lose concentration after getting stuck with certain questions!</td>
<td>The time of any certain question is at least twice the STANDARD TPQ of that section.</td>
</tr>
<tr>
<td>Shell-</td>
<td>You tend to lose</td>
<td>The next question in the SOLVING LIST was answered wrong.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The above conditions occurred 2 times or more during math sections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The time of any certain</td>
</tr>
</tbody>
</table>

-29-
| Shocked in verbal | concentration after getting stuck with certain questions! | question is at least twice the STANDARD TPQ of that section.  
- The next question in the SOLVING LIST was answered wrong.  
- The above conditions occurred 2 times or more during verbal sections |
| --- | --- | --- |
| Section Fatigued | You tend to get tired towards the end of sections, and consequently err more than your usual! | - The % OF SUCCESS in the last 25% of the SOLVING LIST is smaller than the % OF SUCCESS in the first 75% of the SOLVING LIST by at least 25 (percentage points).  
- The above condition is true in 2 sections or more |
| Test Fatigued - 1 | You tend to get tired towards the end of sections, and consequently err more than your usual! | - The % OF SUCCESS in section 5 is smaller by 10 percentage points or more than the % OF SUCCESS in section 1  
- The % OF SUCCESS in section 6 is smaller by 10 percentage points or more than the % OF SUCCESS in section 2  
- AT LEAST ONE of the |
| Test       | You tend to get tired towards the end of the test, and therefore work slower in the last sections! | • The % of answered questions in section 5 is smaller by 10 percentage points or more than the % of answered questions in section 1  
• The % of answered questions in section 6 is smaller by 10 percentage points or more than the % of answered questions in section 2  
• AT LEAST ONE of the above conditions is true |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigued - II</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Skippy      | You skip questions too many times during the test, and that may result in confusion and time loss! | • In the SOLVING LIST of a section the following event occurs at least in 66% of the cases: the number of a question is NOT 1 more than the number of the previous question (ex: 3,6 or 5,4)  
• The above condition is true in 2 sections or more |
<p>| Rigid       | You tend to stick to the order of the questions in the test at all cost. This is usually not the most | • At least 75% of the questions in the QUESTION LIST of a section appear in the |</p>
<table>
<thead>
<tr>
<th></th>
<th>SOLVING LIST in the same order.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• % OF SUCCESS of the sequence mentioned in the above condition is 80% or less</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The above conditions are true in 2 sections or more</td>
<td></td>
</tr>
<tr>
<td><strong>Chicken</strong></td>
<td>You are too scared to make educated guesses when these are called for. This could result in an unnecessary loss of a lot of points!</td>
<td>• # of items in SOLVING LIST is 75% or less of # of items in QUESTION LIST, in a certain section.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• % OF SUCCESS is 80% or more.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The above conditions are true in 2 sections or more</td>
</tr>
<tr>
<td><strong>Hasty</strong></td>
<td>You solve questions too hastily and therefore get too many of them wrong!</td>
<td>• # of items in SOLVING LIST is 80% or more of # of items in QUESTION LIST, in a certain section.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• % OF SUCCESS is 75% or less.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The above conditions are true in 2 sections or more</td>
</tr>
<tr>
<td><strong>Cocky</strong></td>
<td>You do not use all of the allotted time, and that results in unnecessary loss of valuable points!</td>
<td>• The total answering time is less than the allotted time for a certain section by at least 15 seconds. (student pressed “I am done” 15</td>
</tr>
<tr>
<td>Test Phobic</td>
<td>You make mistakes in the beginning of sections!</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Fixated</td>
<td>You tend to get fixated on specific questions, and that results in unnecessary time loss!</td>
<td></td>
</tr>
</tbody>
</table>

- At least 1 wrong answer OR 1 unanswered question in that section
- The above conditions are true in 1 section or more

- The first question in the SOLVING LIST of a certain section was answered wrong
- The above condition is true in 3 sections or more

- 20% of the questions in the QUESTION LIST in a certain section were either not answered OR answered wrong.
- The time of any certain question is at least twice the STANDARD TPQ of that section.
- The above conditions are true in 1 section or more

seconds before end of time, or earlier)
The system and method offered by the present invention provide specific registered users of the system with the option of repeatedly performing one or more pre-defined PT modules by request. The system and method offered by the present invention further provides all the authorized users of the system with the option of repeatedly performing one or more pre-defined PT modules by request. Persons skilled in the art will appreciate that the present invention is not limited to what has been particularly shown and described herein above. Rather the scope of the present invention is defined only by the claims, which follow.
I CLAIM:

1. In a computing and communications environment accommodating at least one client system, connectable to at least one server system, a method for analyzing and improving testing inefficiency characteristics of a user, the method comprising the steps of:
   identifying at least one user presenting testing inefficiency; and
   determining the testing inefficiency-specific personality profile of the at least one user; and
   providing at least one testing inefficiency-specific personality training exercise to the at least one user.

2. The method of claim 1, wherein the step of identifying comprises the steps of:
   capturing test performance-specific information generated by the performance of at least one test by the at least one user; and
   analyzing the test-performance-specific information generated by the performance of at least one test performed by the at least one user.

3. The method of claim 1, wherein the step of determining comprises the steps of:
   establishing at least one test inefficiency-specific personality profile record;
   establishing at least one personality profile-specific personality training record; and
   connecting the at least one personality profile record with the at least one personality training record; and
   associating the result of the analysis of the test performance-specific information with the at least one personality profile record; and
   assigning the personality profile record to the at least one user.

4. The method of claim 1, wherein the step of providing comprises the steps of:
creating at least one personality training procedure; and
connecting the at least one personality training process with the at least one
personality training record.

5. The method of claim 4 further comprising the step of notifying the at least one
user regarding the at least one assigned personality record.

6. The method of claim 4 further comprising the step of notifying the at least one
user regarding the at least one personality training procedure connected to the
at least one assigned personal profile record.

7. The method of claim 4 further comprise the step of enabling the at least one
user to perform the at least one personality training procedure.

8. The method of claim 4, wherein the at least one personality training procedure
is performed by the at least one user repeatedly.

9. The method of claim 4, wherein the at least one personality training procedure
is performed by the at least one user by a request submitted by the user.

10. The method of claim 1, wherein the at least one user having testing
efficiency is identified dynamically.

11. The method of claim 1, wherein the personality profile of at least one user is
determined dynamically.

12. In a computing and communications environment accommodating at least
one client system, connectable to at least one server system, a system for
analyzing and improving testing inefficiency characteristics of a user, the
system comprising the elements of:

a personal training solution handler component; and

a personal training solution table.

13. The system of claim 12 further comprising the elements of:

a user handler component to receive and handle user request; and

a database handler component to provide database access; and

a management utility component to provide system management and
maintenance capabilities; and

a user registration table to store user personal data; and

a user test section completion table to store user test completion data; and

a user scores table to store user tests results.

14. The system of claim 12, wherein the personal training solution component
and the personal training solution table are installed on the at least one server
system.

15. The system of claim 13, wherein the a user handler component, the database
handler component ,a management utility component, the user registration
table, the user test section completion table, and the the user scores table are
installed on the at least one server system.

16. The system of claim 12, wherein the computing and communications
environment is the Internet.

17. The system of claim 12, wherein the at least one user is an individual
learner.
LOAD TEST MODULE

ACCEPT SOLUTION OF TEST SECTION

STORE SECTION PERFORMANCE DATA

ANALYZE SECTION PERFORMANCE DATA

UPDATE USER REPORT

MORE TEST SECTIONS?

RETURN

FIG. 4
FIG. 8

In the figure above, what is the value of x?

(A) 9°
(B) 10°
(C) 15°
(D) 20°
(E) 30°

6. \(2x + 4y > 18\)
   \(y = x - 6\)

Which of the following must be true?

(A) \(y = 1\)
(B) \(y < 1\)
(C) \(y < 0\)

FIG. 9

Time and Personality Issues

The following table lists the issues you have to pay attention to, according to your test, in terms of time management and behavioral conduct when you are being tested. Each issue appears in its title, and a short description of that issue.

<table>
<thead>
<tr>
<th>Issues</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow Starter</td>
<td>It takes you too much time to get started! You tend to spend too much time on the first questions.</td>
</tr>
<tr>
<td>Fast Drawer in math</td>
<td>You draw too fast! You move too quickly at the beginnings of math sections.</td>
</tr>
<tr>
<td>Fast Drawer in verbal</td>
<td>You draw too fast! You move too quickly at the beginnings of verbal sections.</td>
</tr>
<tr>
<td>Tortoise in math</td>
<td>You are too slow! You answer too few questions in the allotted time.</td>
</tr>
</tbody>
</table>
FIG. 10

The long route to Daniel's school is 4 kilometers longer than the short route. When Daniel goes by the long route and returns by the short route, the round trip is 14 kilometers. How many kilometers is the short route?
<table>
<thead>
<tr>
<th>Personality Profiles</th>
<th>'Slow Starter'</th>
<th>'Fast Drawer'</th>
<th>'Tortoise'</th>
<th>'Shell Shocked'</th>
<th>'Section Fatigued'</th>
<th>'Test Fatigued I'</th>
<th>'Test Fatigued II'</th>
<th>'Skippy'</th>
<th>'Rigid'</th>
<th>'Chicken'</th>
<th>'Hasty'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pacer I (Question)</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Pacer II (Batch) : Math</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Pacer III (Batch) : Ansual</td>
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**FIG. 12**
# INTERNATIONAL SEARCH REPORT

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**Date of the actual completion of the International search**

3 April 2002

**Date of mailing of the international search report**

16/04/2002

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Beaute, G.
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