

Methodology of Accounting Teaching

Field of Invention

5 The present invention pertains to accounting teaching methodology. More particularly, the invention relates to a novel teaching methodology using simulation module that guides students, step by step, to generate financial statements starting from journal entries, requiring various input throughout whole process.

10 Background of the Invention

Effective accounting teaching methodology is vital for learning the whole accounting procedures. Various accounting teaching methods have been disclosed. However, all of these methods are limited to teaching of the accounting concepts in a manual accounting
15 system, targeted to establish the concepts of double entry accounting, without disclosing the methodology of preparing full set of account, such as disclosed in Europe patent No. WO2005004090 and U.S. patent No. US4142305. On a computerized platform, on the other hand, commercial accounting software packages require users to understand the accounting concepts prior to preparation of full set of account. In addition, such packages
20 are programmed to be as efficient as possible, automating much of the journal entries or ledger posting. This makes them unsuitable for teaching accounting concepts and accounting documents preparation.

Summary of the Invention

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The simulation module of the present invention takes a new approach to accounting teaching methodology based on computerized platform. It guides students to learn through the whole accounting cycle step-by-step beginning from journal entries until the final financial statements display. Furthermore, students are allowed to enter at least one input
30 throughout the cycle. At the end of the process, students are expected to be able to understand the relevant concepts, such as single and double entries accounting, and procedures, such as ledger posting, in order to prepare a full set of accounting records and related financial statements for at least one accounting cycle based on a computerized

platform. The invented teaching methodology reinforces the learning process by the use of a simulation module together with learning modules, both of which may be part of a computerized courseware.

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Brief Description of the Drawings

Figure 1 is a flowchart showing the entire simulation module for teaching journal entries until financial statements generation.

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Figure 2 is a part of Fig. 1 showing detail in the simulation for teaching preparation of general journal, general ledgers and subsidiary ledgers subsequent to journal entries.

Figure 3 is a part of Fig. 1 showing in detail the simulation for teaching preparation of trial balance subsequent to preparation of ledgers.

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Figure 4 is a part of Fig. 1 showing in detail the simulation for teaching manual preparation of financial statements.

Figure 5 is a part of Fig. 1 showing in detail the automatic preparation of financial statements.

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Figure 6 is part of Fig. 1 showing in detail the simulation for teaching setting up and entries in general and special journals.

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Description of the Preferred Embodiment

The following detailed description describes the invention as illustrated in the figures briefly described above. Numberings used in through out the detail description are consistent for similar steps or elements of the invention. The detailed description merely exemplifies preferable modes of practice for the invention and is shall by no means construed to be limiting the scope of the invention.

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Figure 1 shows a flowchart which illustrates every embodiments of the invention. Students are guided throughout the simulation module from Process 1A (100A) to generation of financial statements (900). In one embodiment of the invention, Process 1A is not included yet but journals and ledgers (700), which include general journal, general ledger and subsidiary ledger, are established in Process 1 (100). Preparation of accounts then proceeds to Process 2 (200) after which trial balance (800) is produced. Finally, financial statements (900) are generated through Process 3 (300). In a second preferred embodiment of the invention, students are allowed to do ledger posting by retrieving the database created in Process 1A (100A) and proceed to Process 1 (100) without doing the data entries (101). The breaking up of the entire invention into different designated processes is not limiting in any way but merely a matter of convenience to aid the description of the invention.

Referring now to Figure 2, the establishment of general journal (701) and ledgers, namely general ledger (702) and subsidiary ledger (703), will be discussed. The students need to prepare the chart of accounts prior to General Journal entries. In another embodiment of the invention, the students can also select predetermined accounts from a given list.

After that the first input to be performed by a student is entries in General Journal (101). A general journal entry includes name of accounts involved and transaction amount involved. Each account involved is debited and credited by the student during each said inputting general journal entry. All transactions will be analyzed by the student in this step (101) according to the classification of accounts set and are recorded in the general journal. Preferably, accounts are classified according to their transaction. Also, students are trained to differentiate the recording of debit and credit, called double entry accounting, which deemed to have two aspects or two effects. The journal entries (101) are then stored in General Journal Format Database (102) after which General Journal (701) is displayed based on the student's entries. In the stage of charting the account, students are required to assign identification code to each account. Preferably, analysis of how each account should be positioned in the relevant financial statement is carried out prior to said code assignment. Assume that, for example, in the Current Asset category, there are four accounts listed: Cash, Bank, Inventory and Debtors. If Cash is to be listed

first, followed by Bank, Debtors and Inventory in the Current asset category of the balance sheet, then Cash account should be assigned a code that has the smallest value, followed in sequence by Bank, Debtors and Inventory. Sorting of accounts is performed in step (103) based on student's input.

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Students are also required to provide additional information such as details of Account Type (either Control, Details or Subsidiary), details of Parent Account (name of parent account if relevant) or details of Account Sub-classification (either Cash, Bank, Discount or Others) in the chart of accounts. Based on students' input, the computer will further
10 sort the accounts according to the account types in step (104). The parent accounts (control accounts) can have either detail or subsidiary accounts as child. In the financial statements which preparation will be further explained later, control accounts with its subsidiary accounts are reflected by only displaying the control account with its totals amount (being the sum of the balances of all said subsidiary accounts). On the other hand,
15 the control account names will be displayed in the financial statement as headings without the total amount and the respective child accounts will be displayed with each individual amount under the respective headings.

As for the Sub-classification, the information is required for the preparation of Cash
20 Book. For this purpose, only Cash, Bank and Discount (both Sales and Purchase Discounts) are affected. The accounts need to be categorized into Cash, Bank or Discount category. For all other accounts, they are classified into the "Others" category.

Next, General Ledger Database (105), which includes parent or control accounts, and
25 Subsidiary Ledger Database (106), which includes child accounts, are displayed after posting from journal by the computer. Said General Ledger Database (105) includes a collection of accounts and the related account codes whereas said Subsidiary Ledger Database (106) includes all the relevant ledgers defined by students which can be accumulated and put into the General Ledger Database (105) again. Then, General Ledger
30 data (702) and Subsidiary data (703) are displayed from said General Ledger Database (105) and said Subsidiary Ledger Database (106), respectively. The General Ledger (702) specifically lists accounts for assets, liabilities, owners' equity, income and expenses

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whereas the Subsidiary Ledger (703) is a detail account book having a controlling account in said General Ledger (702).

With reference now to Figure 3, the General Ledger Database (105) can be taken from
5 Process 1 (100) to start the generation of trial balance (800) as outlined throughout the
flowchart in Process 2 (200). First, the simulation program prepares the Trial Balance
(201) by retrieving the data from the database (105). Next, the database of said trial
balance is stored in Trial Balance Database (202) after which the software allows students
to provide a second input that is by setting the accounting period for the purpose of
10 measuring the performance of an entity. The trial balance (800) is then displayed (203)
where the student will know whether all the postings for the accounting period done in the
general journal (101) were proper. Total debits posted will be equal to the total credits
posted in the Trial Balance (800) only when the chart of accounts are properly set and
general journal entries (101) are properly carried out. Previously omitted transactions, if
15 any, are added in and adjusting entries for accrued and deferred items, if any, are
journalized and posted again to T-account in said ledger.

The value of learning lies in allowing the students to realize that they had made mistakes
during general journal entries (101). The simulation program allows the student to back
20 track to general journal posting (101) and do corrections by posting omission or
adjustment entries. At the juncture of Trial Balance (203), students may need to go back
to step (101) to do omission or adjustment entries for more than once until the Trial
Balance (800) balances. This is because the computer cannot generate the proper
financial statements (900B) even if the students choose to go on to Process 3. It is also
25 preferable that the student would not be able to go on to financial statements preparation if
the trial balance is not correct.

It is to be noted that trial balances may not balance for at least two reasons. Firstly, the
ledgers are not correctly done which includes doing the arithmetic wrongly, applying the
30 book-keeping rules wrongly, omission of journal entries or ledger postings, carelessness
in transferring ledger entries to trial balance sheet. Secondly, the rules of carrying out the
Trial Balances are wrongly executed. Learning accounting or specifically book-keeping
has been difficult for majority of the students because both types of error may be

committed in a single exercise by a student. A mixture of these errors all the more confuses the student who is still new to accounting or book-keeping.

With the present invention, trial balance based on ledger database that is filled by the student's postings is always carried out correctly according to book-keeping rules. Therefore, the only source of errors in the Trial Balance could only come from the first reason of errors. It is obvious to a person in the art now that by the use of the invention, students can improve their book-keeping by getting to redo their wrongly entered journals or wrongly posted ledgers. Previously, such method of teaching book-keeping is not obvious because the task of preparing trial balance for each every students in a typical classroom setting is daunting. Therefore, the invention is preferably executed on a computerized platform.

It is during repetition of checking the Trial Balance (800) result and reposting the general journal entries that the students can reinforce their double entries concept and general journal entries skills. Furthermore through such repetition, the students will become more and more adept with different accounts in accounting because they will be strongly grounded to recognize which account should have debit or credit balances respectively. With enough practice, students can see the overall picture of all the accounts related to a given entity, as they will also understand how one account affects the other related accounts. They will also understand how all transactions will affect the overall financial condition of that given entity. The simulation module then leads to two processes that run concurrently, namely Process 3A (300) in Figure 4, which is performed manually by students, and Process 3B (350) in Figure 5, which is performed automatically by computer. User Data Entry is collected (301) in Process 3A (300) in the current embodiment of the invention. In this step (301), students are required to choose the financial period, to format the financial statements and to decide what accounts should be entered into which financial statement. The computer then displays the financial statements (302) based on earlier input, including Income Statement (901), Statement of Changes in Equity (902) and Balance Sheet (903) prepared by students.

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In the Process 3B (350), on the other hand, the financial statements (900) are prepared by the computer automatically. Retrieving data from the trial balance database (202) from Process 2 (200), the embodiment of the invention allows students to choose the financial

period to be displayed at this stage. The accounts are then classified into five main categories, namely assets, liabilities, owner's equity, revenues and expenses during sorting and classifying of accounts by account codes (451). This is followed by displaying Financial Statements (352) after which computer generated financial statements (900B) including Income Statement (901B), Statement of Changes in Equity (902B), Balance Sheet (903B) and Cash Book (904) are displayed. The value of learning lies in allowing the students to compare correctly prepared financial statements (900B) with those prepared manually in Process 3A. Note that the automatic process allows the Cash Book (904) to be displayed in the invention.

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In second embodiment of the invention, additional steps are introduced prior to Process 1 (101) so that the invention takes on a new flow (100A) as represented in Figure 6. Referring now to Figure 6 in detail, the additional steps allow students to enter special journal entries (101A) in addition to the general journal data entry. It is to be noted that in the first embodiment of the invention comprising Process 1, 2, 3A and 3B, only general journal entries (101) can be accepted in Figure 2. Furthermore when process 1A is inserted prior to Process 1 to form the second embodiment of the invention, General Journal entries (101) in Process 1 as shown in Figure 1 will no longer be carried out in Process 1 but are carried out as a step of entering Special and General Journal entries (101A) in Process 1A as shown in Figure 6.

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Special journal entries involve single entry accounting while general journal data entry trains students to do double entry accounting. When students are using the simulation module, all given transactions are journalized according to respective source documents and are recorded in the appropriate special journals and general journal (101A). At this juncture, students identify which transaction should be recorded in the respective journals, categorize special journal according to respective accounts and appropriately credit and debit respective accounts that are related to the General Journal.

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The process then proceeds to step (102A), where data in corresponding journals are sorted according to journal name by the simulation module, after which all the special journals are stored in a Special Journal Format Temporary Database (103A). The computer then displays said special journals (600), including but not limited to, sales journal, purchases

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journal, cash receipt journal, sales return journal, purchases return journal and cash disbursement journal. By including the steps described in Process 1A as shown in Figure 6, the second embodiment of the invention will also allow students to practice on all journals used in accounting.

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In the second embodiment of the invention, the general journal format is also stored in the General Journal Format Database (102) after which the data is sorted by the simulation program according to the journal names in step (102A) as explained earlier. In this embodiment, the database (102) further includes special journal entries that are transformed into a format that can be merged with existing general journal entries. The transformation is accomplished by through step (104A), details of which are being described in another copending Malaysian Patent Application Number PI2005____ that is filed by the same inventor. Following this, general journal (701) is displayed. It is to be noted that now general journal (701) also include special journals entries, which could not be incorporated in the absence of Process 1A.

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Referring back now to the Figure 2, the General Journal Format Database (102) in Process 1 (100) can be retrieved directly from Process 1A (100A) by omitting the general journal data entry step (101) as explained earlier. In still another embodiment of the invention, students can be required to do ledger posting for accounts that are related to the various special journals. This will test the students' ability to appropriately credit and debit respective accounts that are related to various Special Journals. These ledger postings should appropriately take place after Special Journal entries are completed (101A) but before sorting of accounts (101) according to account codes takes place, such at the juncture where 101 is.

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Alternatively, students can also be requested to perform ledger posting manually unlike the first embodiment where general ledger posting was done automatically by the simulation module based on students' general journal entries. Through these manual general ledger postings, students' understanding and skills related general ledger postings could be reinforced further.

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Referring back now to the Figure 3, where the trial balance (800) is displayed by computer and is checked thoroughly by students for any errors. In the first embodiment of the invention (where Process 1A (100A) is absent), it allows the students to go back to general journal data entry (101) in Figure 2 and perform the adjustment entries or omission entries when the accounts are unbalanced. In the second embodiment of the invention (where Process 1A (100A) is present), it allows the students to go back and perform error correction in both general and special journal entries (101A). Students will also do adjustment entries or omission entries, and perform ledger postings again in Process 1 (100) in Figure 2.

In a further embodiment of the invention, features to prompt the students on any mistake done in journal entries prior to displaying trial balance (203) is also contemplated. This feature is possible because it is a possible extension of the Temporary Database (103A) and the transformation process (104A) in Process 1A. Addition of this new feature in the invented simulation module can also reinforce the learning of accounting.

Besides the two most preferred embodiments of the invention, other embodiments of the invention are also possible by requesting different inputs from students at different stages and displaying to the students the results of their entries at different stages. Different inputs are requested from the students in order to train or test them on different aspects of accounting. These require different modules to be included which may be module to teach preparation of source documents, module to train students to classify each given account according to account types or according to transaction and module to compare and check the student prepared financial statements against the computer generated financial statements. Additional modules such as these may be added to the invention but will not depart from the scope of the invention.

Another possible embodiment of the invention is to omit journal entry from the process but requiring students to do ledger postings directly based on source documents.

It is also apparent to a person with ordinary skill in the art that a computer readable recording medium can store the instructions to execute the present method of teaching accounting. Once the teaching methodology is presented, it is deemed that the person reasonably skilled in the art can encode the instructions to carry out the teaching

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methodology. The methodology to teach accounting can then be carried out by executing the instructions recorded on the computer readable recording medium on a computer and by having a student being taught or trained with the methodology executed on the computer. Furthermore, the computer readable program can also store the necessary learning module for student's reference as they are learning accounting by the new methodology.

A modified version of the instructions can also allow each student to learn accounting by the methodology through individual computers which are part of a network of computers.

10 The modified instructions will be executed on a server which is also part of the same network. Local area network (LAN) is will be used for a classroom environment in a school while wide area network (WAN) such as Internet is suitable for distant learning programs. Communication protocols would need to be added to the modified instructions to carry out the teaching methodology through a network of computers. Other necessary

15 software and hardware modules would included as necessary to carry out the teaching methodology through a network of computers.

The modifications to the various aspects of the present invention described herein above are merely exemplary. It is understood that other modifications to the illustrative

20 embodiments will readily occur to persons with ordinary skill in the art without departing from the scope and spirit of the present invention as defined by the accompanying claims.

Claims

1. A method for teaching accounting comprising the steps of:

inputting general ledger posting and ledger posting based on said general journal entry;

performing trial balance based on said general ledger posting and said ledger posting on behalf of a student; and

correcting said general journal entry by said student when said trial balance is not balanced.

2. The method according to claim 1 further comprising the step of inputting general journal entry by said student, wherein each general journal entry includes name of account involved and transaction amount involved, said account involved is debited and credited with said transaction amount involved as deemed necessary by said student during each said general journal entry.

3. The method according to claim 2 further comprising of displaying said general journal to said student.

4. The method according to claim 1 wherein each said accounts involved has an account code and further comprising the step of sorting said accounts according to respective said account code.

5. The method according to claim 4 wherein said account code is assigned by a step of assigning account code carried out by said student.

6. The method according to claim 1 wherein each said accounts involved has an account type and an account sub-classification and further comprising the step of sorting said accounts according to respective said account type and said account sub-classification.

7. The method according to claim 6 wherein said account type is assigned by a step of assigning account type and account sub-classification that is carried out by said student.

8.The method according to claim 1 further including displaying said general ledger to said student.

5 9.The method according to claim 1 further comprising the step of displaying said ledger to said student.

10.The method according to claim 1 wherein said step of inputting general ledger posting and ledger posting is carried out by said student.

10 11.The method according to claim 2 wherein said step of inputting general ledger posting and ledger posting based on said general journal entry is carried out on behalf of said student.

15 12.The method according to claim 1, further comprising the step of inputting special journal entry by said student, wherein said special journal entry includes name of special journals involved and transaction amount involved.

20 13.The method according to claim 12, wherein each said special journal has a journal name and further comprising the step of sorting said journal entries according to said journal names.

14.The method according to claim 13 further comprising the step of displaying said special journal to said student.

25 15.The method according to claim 12 further comprising the step of correcting said special journal entry by said student when said trial balance is not balanced.

16.The method according to claim 12 wherein said step of inputting said ledger posting based on said special journal entry is inputted by said student.

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17.The method according to claim 15 further comprising the step of displaying said general ledger to said student.

18.The method according to claim 15 further comprising the step of displaying said ledger to said student.

19.The method according to claim 15 further comprising the step of correcting said ledger posting by said student when said trial balance is not balanced.

20.The method according to claim 12 wherein said step of inputting general ledger posting and ledger posting based on said general journal entry is carried out by said student.

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21.The method according to claim 19 further comprising the step of correcting said general ledger and ledger posting by said student when said trial balance is not balanced.

22.The method according to claim 1 further comprising the step of preparing the chart of accounts.

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23.The method according to claim 22 wherein said step of preparing the chart of accounts is carried out by said student.

24.The method according to claim 23 wherein said step of preparing the chart of accounts is done on behalf of said student.

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25.The method according to claim 1 wherein said step of performing trial balance includes entering a financial period by said student.

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26.The method according to claim 1 further comprising the step of preparing financial statements based on the latest version of said trial balance on behalf of said student.

27.The method according to claim 26 wherein said step of preparing financial statements on behalf of said student includes entering a financial period by said student.

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28.The method according to claim 1 further comprising the step of preparing financial statements based on the latest version of said trial balance by said student.

29. The method according to claim 28 wherein said step of preparing financial statements by said student includes entering a financial period, formatting the financial statements and deciding accounts to be included in said particular financial statement.

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30. The method according to claim 26 and 28 further comprising the step of comparing said financial statements prepared by said student and said financial statements prepared on behalf of said student.

10 31. A method for teaching accounting comprising the steps of:

entering a financial period by a student;

preparing financial statements based on a trial balance for said financial period on behalf of said student;

preparing financial statements based on said trial balance by said student;

15 preparing financial statements by said student includes entering said financial period, formatting the financial statements and deciding accounts to be included in said particular financial statement; and

comparing said financial statements prepared by said student and said financial statements prepared on behalf of said student.

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32. A computer readable recording medium storing instructions for executing a method for teaching accounting comprising the steps of:

inputting general ledger posting and ledger posting based on said general journal entry;

25 performing trial balance based on said general ledger posting and said ledger posting on behalf of a student; and

correcting said general journal entry by said student when said trial balance is not balanced.

30 33. The computer readable recording medium according to claim 32, further comprising instructions for executing a method for teaching accounting comprising the steps of inputting general journal entry by said student, wherein each general journal entry includes name of account involved and transaction amount involved, said account

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involved is debited and credited with said transaction amount involved as deemed necessary by said student during each said general journal entry;

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34.The computer readable recording medium according to claim 32, further comprising instructions for executing a method for teaching accounting comprising the steps of inputting special journal entry by said student, wherein said special journal entry includes name of special journals involved and transaction amount involved and the step of correcting said special journal entry by said student when said trial balance is not balanced.

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35.A computer readable recording medium storing instructions for executing a method for teaching accounting comprising the steps of:

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entering a financial period by a student;
preparing financial statements based on a trial balance for said financial period on behalf of said student;
preparing financial statements based on said trial balance by said student;
preparing financial statements by said student includes entering said financial period, formatting the financial statements and deciding accounts to be included in said particular financial statement; and
comparing said financial statements prepared by said student and said financial statements prepared on behalf of said student.

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36.A network of computers for executing a method for teaching accounting comprising the steps of:

inputting general ledger posting and ledger posting based on said general journal entry;
performing trial balance based on said general ledger posting and said ledger posting on behalf of a student; and
correcting said general journal entry by said student when said trial balance is not balanced.

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37.The network of computers according to claim 35, further comprising instructions for executing a method for teaching accounting comprising the steps of inputting general

journal entry by a student, wherein each general journal entry includes name of account involved and transaction amount involved, said account involved is debited and credited with said transaction amount involved as deemed necessary by said student during each said general journal entry;

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38.The network of computers according to claim 35, further comprising instructions for executing a method for teaching accounting comprising the steps of inputting special journal entry by said student, wherein said special journal entry includes name of special journals involved and transaction amount involved and the step of correcting said special journal entry by said student when said trial balance is not balanced.

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39.A network of computers for executing a method for teaching accounting comprising the steps of:

entering a financial period by a student;

15 preparing financial statements based on a trial balance for said financial period on behalf of said student;

preparing financial statements based on said trial balance by said student;

preparing financial statements by said student includes entering said financial period, formatting the financial statements and deciding accounts to be included in said particular financial statement; and

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comparing said financial statements prepared by said student and said financial statements prepared on behalf of said student.