

A Number Line Approach to Teaching Debits, Credits, and the Fundamental Accounting Equation

Ryan Peterson

University of Central Missouri, USA

Randall Kesselring

Arkansas State University, USA

Abstract. This paper proposes a method of integrating the interpretation of debits and credits with the fundamental equation of accounting. It simplifies a topic that beginning accounting students often struggle with. The technique is very straightforward requiring only the use of a modified number line. The authors have found it a useful technique in both accounting and economics classes.

Keywords: debits, credits, accounting principles, teaching method, accounting education.

I. Introduction

Accounting can be perceived as a difficult subject by beginning students—both by those pursuing accounting degrees and those simply fulfilling business requirements. This is true despite its use of relatively simple arithmetic. While beginning students always have difficulty learning the language of a new discipline, and accounting is certainly no exception to this, the most difficult challenge seems related to the essential interpretation of debits and credits. The intent of this paper is to provide a unique, integrated solution for relating the concepts of debits and credits to the fundamental accounting equation in a unified process. This paper provides a useful method for helping students master the use of debits and credits by explaining the underlying logic and providing a simple and unique visual tool which provides students with an unequivocal answer to their questions regarding categorization of credits and debits.

This shortened version of the article is for promotional purposes on publicly accessible databases.

Readers who wish to obtain the full text version of the article can order it via the url

<https://www.neilsonjournals.com/JIBE/abstractjibe14petersonkesselring.html>

Any enquiries, please contact the Publishing Editor, Peter Neilson pneilson@neilsonjournals.com

© NeilsonJournals Publishing 2019.

II. Explanation of the Problem

As is evident from its name, the process of accounting involves interpretation of a number of accounts which can be divided into three types: asset accounts, liability accounts, and equity accounts. These accounts are all connected by the fundamental equation of accounting: $Assets = Liabilities + Equity$. Assets are resources owned by an entity which entitle it to current or future economic benefits. Examples of assets include buildings, cash, and receivables. Liabilities are the polar opposite of assets in that they require some sort of future economic sacrifice. Examples of liabilities include payables and unearned revenue. Equity is investors' residual claims on assets after liabilities are satisfied, or more simply stated as assets minus liabilities. Equity accounts are further segmented into contributed capital and retained earnings. Contributed capital captures purchases of the entity—investment by new investors or previous owners. Retained earnings captures earnings the entity has chosen not to pay out through dividends and has thus retained. A simplistic view is that assets are owned things of value, liabilities are things that are owed, and equity is the book value or net worth of an entity.¹

In addition to the basic accounting equation $Assets = Liabilities + Equity$, a second important concept for recordkeeping is the double entry system. Double entry accounting is a technique for recording increases and decreases in accounts by adding an amount to either the left column of an account or the right column of an account. For example, increases in cash are recorded with values in the left column of the cash account, while decreases in cash are recorded with values in the right column of the cash account. Although it seems complicated and unnecessary at first, this method was developed to allow interested parties quick and easy access to individual account information, while providing a method to quickly verify account balance accuracy. When this method is combined with the basic accounting equation, it yields a rule that all entries on the left side of columns for a given time period must equal all right side entries for the same time period. If that is not the case, then a recording error has occurred.

Despite the etymology of the words debit and credit, accountants today define debit to mean left (the left-hand column in an account or ledger) and credit to mean right (the right-hand column in an account or ledger) (Spiceland 2015, p. 69). This usage of the words debit and credit can be traced to a textbook written in the late 1400s by the Italian monk Luca Pacioli (Sangster and Scataglinibelghitar 2010). His text is the first known record of the double entry accounting system, and in it Pacioli used the Latin words *debito* for resources owned by the entity and *credito* for resources owned by those outside the entity. Pacioli noted that debits go on the left and credits go on the right (*debitore ala sinistra e credito ala dextra*). Because the meaning of these Latin words have

1. Equity differs from net worth because many assets are recorded at what they cost instead of fair market value. However, comparing a company's book value to an individual's net worth is useful because it is a term students are more familiar with.