Animation of Money Management and Accounting for High School Students

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Abstract. Money management implies important financial accumulation, which involves the allocation, exercising, and management of capitals. This research designs and creates “Animation of money management and accounting for high school students”, which can help high school students understand their how and why they should plan for living expenses to prevent potential financial crisis in the future. The animations are created using LINE Camera APP software and the PowToon software tool. This research also allows university students to think back on how much they had spent during their high school days, incites students’ retrospective on financial literacy and inspires their enthusiastic responses to and feedback on their spending habits. Most students mentioned that they have no idea how much or where they had spent money during their high school years, or whether they had well spent their allowance from their parents, and only recently realized the huge amount of money they had spent. This animated film program reminds students that it is necessary to track their spending and to put their parental patronage to good use, meaning they should plan their expenses to avoid unnecessary spending to reduce parents’ financial burden. This research shows that animation contributes to current high school students’ financial literacy and expense planning, and also serves the purpose of both general education / math course content and the pursuit of lifelong learning.

Introduction: Research Background, Motives and Purposes

The Organization for Economic Co-operation and Development (OECD) conducted research into the financial education of various countries, such as Britain and America, and maintained that adults receiving wealth management education would save and plan for their retirement. Moreover, those with more knowledge about wealth management could more easily accumulate more wealth and better manage their debts [1, 2, 3]. This study believes that if people can acquire the concept of financial literacy as students, in the future, high school students with financial literacy can properly plan their expenditures for a 4-year university education, and can increase income while reducing their expenditures at university. It is intended that animated films can encourage students to form good habits of active accounting, develop their financial literacy, and start financial planning as students. The creation of animated films, used together with popular texts regarding life income and expenditures, will allow them to create diagrams with distinction, which are highly flexible and appealing. Furthermore, due to dramatic tension and solid narrative skills, animation can immediately capture learners’ attention, and allow them to indulge and learn from it.

Literature Review

Financial Literacy

The Financial Literacy and Education Commission (FLEC) defines money management as "the ability to make informed judgments and the ability to take effective actions regarding the current and future use and management of money" [4]. Financial literacy refers to the ability to make
judicious judgments and make effective decisions when using and managing money [5]. Financial literacy is also defined as "the ability to understand important concepts about money management in an up-to-date manner, the practical knowledge of financial institutions, institutions and services, and certain analytical skills, as well as the ability and attitude to make responsible financial management decisions meeting personal needs" [6]. OECD [3] indicated that financial literacy is the knowledge and understanding an individual has in the face of financial concepts and possible crises, and is defined as a combination of awareness, knowledge, skill, attitude, and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing. Financial literacy is also defined as "a set of sufficient knowledge and skills, including a wide variety of economic and financial knowledge and attitudes, financial planning skills, and the practices of financial institution services, in order that people could carefully manage their own money and make responsible financial decisions beneficial to them [7].

Britain has been attaching great importance to financial education since 2003, and in 2014, their national curriculum officially integrated financial education into their 5th grade math and civic classes [8, 9]. The gap between rich and poor highlights the importance of financial planning. People must plan their wealth if they want to avoid poverty. In addition, money management is an important matter in life and a major issue everyone must learn throughout their life.

The Ministry of Education [10] published "Grade 1-9 Curriculum Integrative Activities". As one of the four main axes, "life management" includes financial planning, strategies, and actions as the core indicators of "life management". Therefore, the government and related educational authorities started to place emphasis on "financial education" and "financial literacy", and incorporated them into national compulsory education. Taiwanese universities offer optional or general education courses in money management. Additionally, the Financial Literacy & Education Association (FINLEA) [11, 12] also learned from foreign curriculum standards, published an outline from elementary school to university, and used this outline as an indicator to develop financial literacy courses suitable for Taiwan students, in order that students can understand their income, develop correct financial concept, make careful spending decisions, learn the importance of credit, get into a habit of saving, and appreciate the benefits of investment. This study is designed to produce money management and accounting animation for students to help them to recall and record their previous living expenses, in order that they can begin future money management from the present.

**Impact of Money Management and Accounting Animations**

In order to enable primary school students to understand the basic concepts of money management, FINLEA [13] and the Taiwan Depository & Clearing Corporation (TDCC) co-sponsored the "2016 FINLEA Financial Competition for Primary School Students", which encourages students to surf the Internet and watch money management and accounting animations, and creates and uploads novel financial short films and financial drawings. The Financial Supervisory Commission values financial knowledge promotion and education, and expects financial education to be offered to young children [14]. Children have the greatest ability to learn, and if they can learn to form correct money concepts early, develop the right financial and spending habits, learn to save their pocket money to help more needy people in society, and to experience that it is better to give than to take, it would be exceedingly meaningful.

In addition to learners' active participation, effective learning should include sensory integration [15]. Animation allows students to interact, thus, students can acquire knowledge from animation, and learn and contemplate how and what they could change [16]. Therefore, financial literacy and related knowledge are integrated into animation textbooks. Visual and auditory stimulation could be affected by multimedia to enhance learning outcomes [17]. Consequently, this study asks students to produce money management and accounting animations with images and sound effects, and consider making changes to gain good money management and accounting habits in the process of making animations.
Steps of Producing Money Management and Accounting Animation

The steps for producing money management and accounting animation in this study are, as follows: First, we asked university students to recall and discuss their spending items and amounts from high school; then, we assumed that the average expenses and purchased items are recorded on a monthly basis; finally, the animations are produced based on the above data. Figure 1 shows the flow chart of producing accounting animation.

![Flow chart of producing money management and accounting animation.](image)

**Figure 1.** Flow chart of producing money management and accounting animation.

(Fig 2a) Living expenses of high school students
(Fig 2b) Explain how parents work hard to make money
(Fig 2c) Remind students to know how to make good use of living expenses
(Fig 2d) Point out the good use of money management can lighten family burden
(Fig 2e) Think about which items we must spend money on
(Fig 2f) Expenses of food, clothing, shelter, transportation, entertainment
(Fig 2g) Basic expenses
(Fig 2h) Living Financial Manual for High School Students
(Fig 2i) Examine the expenses of dinner foods
(Fig 2j) Expenses on drinks and desserts
(Fig 2k) Adding dinner costs and the expenses of drinks and desserts
(Fig 2l) The expenses will be $4,190/year, excluding winter and summer vacations
Expenditures on entertainment

Sum up expenses of food, clothing, shelter, ... per year

Mastering wealth management can alleviate parents' heavy burden

Figure 2. Screens captured from the animation system.

The animated films in this paper, as shown in Figures 2a-2o, show the screenshots of the money management and accounting animations of the "living expenses of high school students". Regarding the pictures for post-production, this study uses the LINE Camera APP, and employs the basic photographic filter functions with frames and various stickers. The basic expenses of high school students are discussed before being sorted and included in the POWTOON animation. Regarding the limitations of the animation contents, as the animation is concerned with living expenses, students' scholarships and working incomes are not recorded. With regard to transportation fees, students may ride a bike, take a school bus, or be picked up by their parents, thus, the monthly amount of taking a school bus differs, as based on distance, or is adjusted with each fee change, in order that the amount of transportation fees are in accordance with the bus ticket price.

This animation production about high school students' living incomes and expenditures takes current university students recalling their high school expenditures as the protagonist, and sets the scenarios for life accounting and the financial management of the country's future backbone, including present social prices, temptations from external environments, unlimited wasted resources, and the ability to manage their lives. These factors are likely to affect social development from different aspects, thus, the main purpose of creating animations about living incomes and expenditures is to avoid unnecessary waste, while sharpening high school students' money management abilities. After all, current high school students will become the country's future masters. This study hopes that young people will be attracted and encouraged by accounting animations regarding high school students' living expenses, in order that they can develop financial knowledge and literacy at a young age, and thus, reduce unnecessary spending and moonlight clans.

Conclusion

In a globalized modern society, some commodity-oriented subcultures embrace consumerism to become the marketing symbol of their identity [18]. In Taiwan, high school students are exposed to fashionable brands, 3C products, video games, and other entertainment products, which are often commodity-oriented, and contribute to many external temptations for students. For high school students in general business classes, their knowledge of money management is still incomplete, and for those in the non-general business classes, their knowledge of money management and financial literacy is even more lacking. Mathematics teaching in the classroom is limited to formal paper exercises, which may easily bore students and cause them to lose interest in learning money management. However, high school students' acceptance will be significantly enhanced through more lively, colorful, and dynamic animations and videos. Furthermore, animations and videos may be viewed on the Internet anytime, are free from geographical restrictions, and more convenient than textbooks. Additionally, students now have 3C products, and can easily share animations and videos over social networks. Such a combination of teaching and the Internet allows viewers to have a basic concept of money management, which can more easily promote money management.

After watching the animations, some students became emotional, and mentioned that although they did have the habit of recording accounts in their daily life, they were not overly sensitive to money issues, and did not realize that they in fact spent so much of the money earned by their parents in their three years of high school. Several students were struck dumb from initially thinking, listing items, estimating their expenses, and seeing the total sum, but after watching the money management and accounting animations, they did not expect they would spend as much
money. These animations encourage them to more cautiously spend money, and not to carelessly spend the living expenses given by their parents. Moreover, they began to consider whether to work part-time or reduce some unnecessary expenses in the next four years of college life to reduce the burden on their parents.

The research results suggest that the use of money management and accounting animation, as created in this study, can indeed make substantial contributions to students. Additionally, such financial education animation also integrates mathematics and general education courses for teaching and learning purposes, which can be used for financial purposes throughout lifelong learning.

Suggestions

Everyone has different financial goals in each stage of their career development, as well as different financial focuses as students, after marriage, with children, and after their children are grown. Moreover, different people have different financial goals due to differences in individual environments, values, differences, and demands. It is suggested that follow-up research can develop finance teaching and learning animations for different life stages, which can be used as a reference for money management in different stages.

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