

EFFORTS TO IMPROVE EDUCATION ON PERSONAL INCOME TAX (PPH OP) THROUGH THE DESIGN OF AN INTERACTIVE GAME (TAXMIGO)

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Abstrak

Penelitian ini dilatarbelakangi oleh rendahnya pemahaman Wajib Pajak Orang Pribadi (WP OP) dalam memahami proses pengisian, perhitungan, dan pelaporan SPT Tahunan PPh OP secara mandiri. Penelitian ini bertujuan untuk mengetahui pemahaman WP OP serta merancang media edukasi perpajakan berbasis *game Taxmigo*, dengan mempertimbangkan penerimaan pengguna berdasarkan teori *Technology Acceptance Model* (TAM). Metode penelitian menggunakan *Research and Development* (R&D) dengan pendekatan kualitatif deskriptif melalui model 4D yang dimodifikasi pada tahap *Define* (Pendefinisian) dan *Design* (Perancangan). Data dikumpulkan melalui kuesioner terbuka kepada WP OP dan petugas pajak di KPP Pratama Madiun, kemudian dianalisis melalui reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian menunjukkan kendala berupa perubahan sistem DJP *Online* ke *Coretax*, keterbatasan pemahaman mengenai perpajakan, serta kemampuan teknologi digital. Kontribusi penelitian ini menghasilkan rancangan *game Taxmigo* berbasis web dengan simulasi SPT Tahunan. Materi *Taxmigo* telah divalidasi oleh dua validator dengan kategori “Sangat Layak”. Penelitian selanjutnya disarankan melanjutkan tahap *Development* (Pengembangan) dan *Disseminate* (Penyebarluasan).

Kata Kunci: Wajib Pajak Orang Pribadi, SPT Tahunan, Edukasi Perpajakan, *Research and Development* (R&D), *Taxmigo*

Abstract

This study was motivated by the limited understanding among individual taxpayers regarding the independent processes of filling out, calculating, and reporting their Annual Income Tax Returns (SPT Tahunan PPh OP). The study aimed to assess individual taxpayers' understanding and to design a game-based tax education tool called "Taxmigo," while evaluating user acceptance based on the Technology Acceptance Model (TAM). A Research and Development (R&D) method with a descriptive qualitative approach was employed, utilizing a modified 4D model specifically for the Define and Design stages. Data were

collected via open-ended questionnaires distributed to individual taxpayers and tax officers at the Madiun Primary Tax Office (KPP Pratama Madiun) and subsequently analyzed through data reduction, data presentation, and conclusion drawing. The findings revealed challenges such as the transition from the DJP Online system to Coretax, limited tax knowledge, and varying levels of digital technology proficiency. The study resulted in the design of a web-based Taxmigo game featuring an Annual Tax Return simulation. The Taxmigo content was validated by two experts and rated as "Highly Suitable." Future research is recommended to proceed with the Development and Dissemination stages.

Keywords: *Individual Taxpayers, Annual Tax Returns, Tax Education, Research and Development (R&D), Taxmigo*

A. INTRODUCTION

Taxes are the primary source of government revenue in Indonesia and play a crucial role in financing national development and providing public services (Adilla *et al.*, 2025). With tax revenue contributing more than 70% of government revenue, taxpayer compliance is one of the key factors supporting the success of national development (Pandiangan *et al.*, 2025). One type of tax that plays a strategic role is the Individual Income Tax (PPh OP). In its implementation, Indonesia employs a *self-assessment* system, which empowers taxpayers to calculate, pay, and report their own tax obligations through an Annual Tax Return (SPT) (Kadarukmi & Situmorang, 2026). These provisions are regulated under Law No. 7 of 1983 on Income Tax, as last amended by Law No. 7 of 2021 on the Harmonization of Tax Regulations (UU HPP), and are supported by Law No. 6 of 1983 on General Provisions and Tax Procedures (KUP).

In line with advancements in information technology, the Directorate General of Taxes (DJP) continues to pursue digital transformation through the development of the Coretax system, which is set to implemented in 2025. This system is an expansion of various electronic tax services, such as e-SPT, *e-Registration*, *e-Filing*, *e-Billing*, *e-Invoicing*, and *e-Bupot* (Directorate General of Taxes, 2020; Directorate General of Taxes, 2024). Although digitization has simplified tax administration, its implementation has not been fully accompanied by an increase in taxpayers' understanding of tax calculation and reporting procedures (Korat & Munandar, 2025).

Data from the Directorate General of Taxes show that the national formal compliance rate declined from 86.97% in 2023 to 82.66% in 2024. The largest decline occurred among the Non-Employee Individual Taxpayers (WP OP) group, which achieved a compliance rate of only 27.96% (Directorate General of Taxes, 2024). This situation reflects the public's still-low level of tax literacy, difficulties in understanding electronic tax administration procedures, and the complexity of ever-evolving tax regulations (Arifudin & Puspita, 2025; Wijaya *et al.*, 2025). As a result, many taxpayers still face difficulties in calculating their income tax liability or filing their annual tax returns independently.

A similar phenomenon also occurred at the Madiun Primary Tax Office. Although the number of individual taxpayers required to file tax returns increased from 67,645 in 2023 to 79,248 in 2024, the reporting compliance rate actually decreased from 93.18% to 77.69%. This situation indicates a gap between the increase in the number of taxpayers and their ability to fulfill their tax obligations. Various educational efforts, such as outreach campaigns, guidance sessions, webinars, and the dissemination of information via social media, have been implemented; however, most of these initiatives still focus primarily on delivering content and thus have not yet provided learning tools that allow taxpayers to practice independently through tax calculation and filing simulations.

The *Technology Acceptance Model* (TAM) developed by Davis (1989) explains that an individual's acceptance of a technology is influenced by two main constructs: *perceived usefulness* and *perceived ease of use*. These two factors influence users' attitudes, interest, and decisions regarding the use of an information system (Sugiarti, 2023; Sunarya, 2022). In this study, TAM was used as the foundation for designing the game-based tax education platform *Taxmigo*. The design of the educational media prioritizes ease of use so that users can learn the process of calculating, filling out, and filing Annual Tax Returns more easily. Additionally, the aspect of usefulness is emphasized to ensure that the developed media can provide tangible benefits in enhancing the tax understanding of Individual Taxpayers (WP OP).

Various previous studies have shown that *experiential learning* such as simulations and gamification can enhance users' understanding, motivation, and engagement in the learning process (Anggraeni & Mulianingsih, 2026; Handriyantini & Gandawinata, 2024; Nurfaizana *et al.*, 2025; Nurhopipah *et al.*, 2023). However, these studies generally focus on learners, such as school and college students, and have not yet developed simulation tools that specifically integrate the process of calculating Individual Income Tax (PPh OP) with the filing of Annual Tax Returns for Individual Taxpayers (WP OP). Given these circumstances, this study offers a novel approach in the form of the development of the web-based educational *game Taxmigo*, which integrates tax materials, a simulation of Personal Income Tax (PPh OP) calculation, and a simulation of Annual Tax Return filing into a single interactive learning *platform*. The development of this educational tool is expected to provide a more engaging learning experience while helping to improve the understanding and compliance of Individual Taxpayers (WP OP).

Based on the above description, this study aims to determine the level of understanding among Individual Taxpayers (WP OP) regarding the process of filling out, calculating, and filing the Annual Income Tax Return (SPT), to analyze the factors that cause Individual Taxpayers (WP OP) to experience difficulties in filing their tax returns despite the digitization of the tax administration system, to design *the Taxmigo game* as a web-based simulation tool for Individual Income Tax (PPh OP) that is easily understood by Individual Taxpayers (WP OP), and to assess the suitability of the content in *the Taxmigo game* based on the results of validation by subject matter experts as a tax education medium.

This study is expected to provide both theoretical and practical benefits. Theoretically, this study is expected to contribute to the advancement of knowledge in the field of taxation, particularly regarding tax education for Individual Taxpayers (WP OP), and to enrich research on the use of digital media and interactive simulations as effective learning strategies to improve tax understanding. Practically, this research is expected to help Individual Taxpayers (WP OP) understand the process of calculating, filling out, and filing annual tax returns independently through interactive learning media; serve as a

reference for educational institutions in developing technology-based tax learning media; provide input to the Directorate General of Taxes (DJP) in developing digital-based tax education media; and serve as a reference for future research on tax education, digital learning media, and the application of gamification in the field of taxation.

B. METHOD

This study is a *research and development (R&D)* project aimed at designing *Taxmigo*, a web-based educational *game* serving as an interactive learning tool to help Individual Taxpayers (WP OP) understand Income Tax (PPh) and file their Annual Tax Returns independently (Mabel & Aryani, 2025). The study uses a modified 4D development model, implementing only implementing two stages: *Define* (needs analysis) and *Design* (product design). The *Develop* and *Disseminate* stages were omitted because the study was limited to needs analysis and product concept design in accordance with the available scope, time, and resources (Ananda *et al.*, 2024). This study employed a descriptive qualitative approach to describe the problems, needs, and experiences of OP participants as the basis for designing the *Taxmigo* game (Fadli, 2021).

1. Research Location

The research was conducted at the Madiun Primary Tax Office (KPP) because of its direct connection to individual taxpayers (WP OP) as the research subjects. The selection of the location was also based on the researcher's experience as a Tax Volunteer from 2024 to 2025, as well as the ease of access for data collection through the distribution of questionnaires to individual taxpayers and tax officials.

2. Research Subjects and Objects

The research subjects included staff at the Madiun Pratama Tax Office, individual taxpayers (WP OP), and tax subject matter experts. Tax office staff and individual taxpayers served as respondents in the needs analysis, while the subject matter experts were tasked with validating the content in the *Taxmigo* game. Subjects were selected using *purposive sampling* in accordance with the research objectives (Himam *et al.*, 2026). The research focus is on individual taxpayers' understanding of

and challenges in calculating income tax and filing annual tax returns, which serve as the basis for developing the web-based educational game Taxmigo.

3. Data Sources and Collection Techniques

The research data consisted of primary and secondary data. Primary data were obtained through open-ended questionnaires administered to six officials at the Madiun Pratama Tax Office and twenty-four individual taxpayers (WP OP), validated by two subject matter experts, and through observations during Tax Volunteer activities. Meanwhile, secondary data were obtained through a review of and documentation in the form of books, scientific articles, reports from the Directorate General of Taxes (DJP), and relevant tax regulations.

4. Data Analysis Techniques

The questionnaire data were analyzed using qualitative descriptive methods, following the stages of data reduction, data presentation, and drawing conclusions. Meanwhile, the data from the subject-matter experts' validation were analyzed using a percentage of validity calculated with the following formula:

$$P = \frac{\text{Total score obtained}}{\text{Maximum possible score}} \times 100\%$$

Source: Amirino and Daryanto (2016, as cited in Saluni *et al.*, 2025)

The eligibility percentage is interpreted descriptively to determine the level of material eligibility based on the validator's assessment, which serves as the basis for determining whether revisions are needed or if the material is suitable for use. The eligibility criteria are presented in the following table.

Table 1. Suitability Score Criteria

Eligibility Percentage (%)	Acceptability Criteria
81% - 100%	Highly Acceptable
61% - 80%	Eligible
41% - 60%	Fairly Acceptable
21% - 40%	Not Suitable
0% - 20%	Unsuitable

Source: Riduwan (2023, as cited in Damayanti & Barokah, 2024)

C. RESULTS DISCUSSIONS

1. *Define Phase*

The *Define Phase* aims to identify user needs as the basis for developing the *Taxmigo* educational media. The analysis was conducted through an open-ended questionnaire administered to 24 Individual Taxpayers (WP OP), 6 staff members at the Madiun Primary Tax Office (KPP Pratama Madiun), and observations made during the Tax Volunteer activities to determine the level of understanding, challenges in filing Annual Tax Returns (SPT), and the need for interactive learning media.

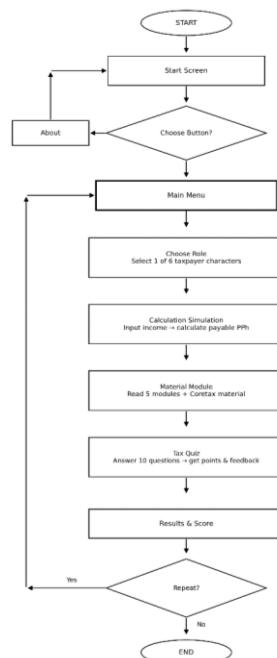
The research findings indicate that individual taxpayers' understanding of filling out, calculating, and filing Annual Tax Returns remains inconsistent. Some taxpayers still struggle to understand income tax calculations, form completion, and tax terminology; consequently, the implementation of *the self-assessment system* is not yet fully supported by taxpayers' ability to fulfill their tax obligations independently. These findings align with studies by Arifudin & Puspita (2025) and Pentanurbowo (2022), which state that low tax literacy affects taxpayer compliance.

The study also found that the main obstacles stem from adapting to the *Coretax* system, low digital literacy, and the use of technical tax terminology. These findings support the research by Sapari & Bakar (2025) as well as the *Technology Acceptance Model* (TAM) theory by Davis (1989), which explains that the perceived ease of use

influences the acceptance of a system. Therefore, more interactive educational media are needed to help improve taxpayers' understanding.

2. Design Phase

The *Design* phase was conducted based on the results of the needs analysis in the *Define* phase. Findings regarding low tax literacy, difficulties in understanding reporting procedures, and the need for more interactive learning media served as the basis for designing the web-based educational *game Taxmigo*. The design of this medium aims to provide a learning experience that is not only theoretical but also allows users to directly practice the process of calculating Personal Income Tax and filing Annual Tax Returns. The *Taxmigo game* was designed by integrating tax materials, simulations of Personal Income Tax (PPH OP) calculations, simulations of Annual Tax Return (SPT) filing, and gamification elements such as points, levels, and *badges*. The design is based on the *Technology Acceptance Model* (TAM) to ensure the platform is easy to use (*perceived ease of use*) and beneficial to users (*perceived usefulness*). The overall flow of *Taxmigo* can be seen in the following figure:



Source: compiled by the researcher, 2026

Figure 1. Taxmigo Game Flowchart

Figure 1 illustrates the *Taxmigo game* workflow, which begins with the home page, selection of learning menus, presentation of material, simulation of Personal Income Tax (PPh OP) calculation, simulation of Annual Tax Return filing, and concludes with evaluation via a quiz and scoring. This workflow is designed in stages to provide users with a systematic learning experience through hands-on practice.

This design aligns with the research by Muaddab *et al.* (2024), which shows that *game-based* learning media can improve tax literacy by providing a more engaging and interactive learning experience compared to conventional teaching methods. As a final step, the content design in *the Taxmigo game* was validated by two subject matter experts from the Madiun Primary Tax Office (KPP Pratama Madiun). The validation results showed that the media achieved a feasibility percentage of 83.715%, placing it in the “Highly Feasible” category. These results indicate that the presented material complies with applicable tax regulations, possesses adequate depth of content, and is relevant as an educational tool for Individual Taxpayers (WP OP).

In addition to providing an assessment, the validators also offered several recommendations, particularly regarding the importance of regularly updating the content to reflect changes in tax regulations. These recommendations will serve as the basis for refining *Taxmigo's* content to ensure that the platform remains relevant and accurate.

D. CONCLUSIONS

Based on the research findings, it can be concluded that the understanding of Individual Taxpayers (WP OP) at the Madiun Primary Tax Office regarding the calculation, completion, and filing of Annual Tax Returns remains uneven. The main challenges faced include low tax literacy, difficulty adapting to the *Coretax* system, varying levels of digital proficiency, and technical issues with the system. Based on this needs analysis, this study resulted in the design of a web-based educational game called *Taxmigo*, which integrates material on Individual Income Tax (PPh OP), simulations of Annual Tax Return calculation

and filing, and gamification elements as an interactive learning medium. Expert validation results indicate that the content in *Taxmigo* falls into the “Highly Suitable” category for use as a tax education medium. However, this study is still limited to the *Define* and *Design* phases; therefore, further research is recommended to proceed to the *Development* and *Dissemination* phases and to test *Taxmigo*’s effectiveness among a broader range of respondents.

E. SUGGESTIONS

Future researchers are advised to proceed to the *Development* and *Dissemination* phases so that *Taxmigo* can be developed into a ready-to-use product. The DGT and the Madiun Tax Office are advised to consider using interactive, simulation-based tax education tools in modern tax outreach programs. In addition, individual taxpayers are advised to actively utilize the various existing tax education resources to enhance their understanding of taxation. Furthermore, educational institutions can use tax education simulations to prepare students to meet the demands of taxation in the digital age.

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