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Kampus Sungai Petani

Faculty of Administrative
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TCD (Table Connector Design)

Ramlan Mustapha
ACIS, UITM Pahang, Raub Campus
ramlan@uitm.edu.my

Maziah Mahmud
ACIS, UITM Pahang, Raub Campus
maziahmahmud@uitm.edu.my

Surita Hartini Mat Hassan
ACIS, UITM Pahang, Raub Campus
suritahartini@uitm.edu.my

Siti Norma Aisyah Malkan
ACIS, UITM Pahang, Raub Campus
siti_norma@uitm.edu. my

Nurul Hidayah Che Hassan
ACIS, UITM Pahang, Raub Campus
nurul_hidayah@uitm.edu.my

ABSTRACT

Academic writing is essential for students to complete their studies successfully and to compete professionally. University students are required to write based on various styles and are evaluated for their ability to write proficiently. This Table Connector Design (TCD) software is developed to improve writing skills, organise facts and organise academic writing data more systematically. It was developed to offer a fast, easy and user-friendly approach to academic writing that organises facts as found in the literature. The software also helps arrange ideas and facts in the form of a table that can be arranged and rearranged quickly and accurately to suit changing contexts and purposes.

Keywords: TCD, Writing Skill, Academic writing, Software.

INTRODUCTION

Since writing is a crucial factor in academic and career success, students need to be able to write independently of every support and technological method. Writing abilities, such as skills, strategies for writing, writing in a way that communicates ideas clearly and concisely, builds reasoned arguments, organises evidence and generated ideas. These skills are critical and are applied widely. A student's inability to express ideas in writing with accuracy and sophistication risks them being rejected from colleges, universities and many areas of professional employment.

Students need to acquire writing skills to graduate from university and college and compete in a highly competitive global economy. It is, therefore, essential to introduce students to formal

writing and provide an opportunity to produce formal academic reports. Industry requires people to write with grammatical precision, examine a subject thoroughly, and present evidence-based arguments logically and coherently (Alhusban, 2016).

What is TCD?

TCD (Table Connector Design) is a software developed to help organise and expedite academic writing. It addresses the problem faced by new students in various fields of study, organising and gathering information and writing facts. TCD is developed in the form of electronic software in accordance with Microsoft Windows. It is easy to use, as it is built with a user-friendly concept and is easy to operate. This simple and precise concept is needed to accelerate the comprehension process and improve writing skills so that the layout and facts in academic writing can be coordinated. It is a writing tool that helps organise ideas and presents them clearly and systematically.

LITERATURE

Several researchers participated in the development of computer programmes that contribute to writing skills assessment and feedback. In Burstein, Khodorov and Leacock (Parra & Calero, 2019), writing can be improved most effectively by writing frequently and receiving immediate and proper feedback. Furthermore, Automated Writing tools as an assistant tool that provides high-level feedback and writing quality are growing (Wilson & Czik, 2016).

Technology and writing

Writing is the first step towards better pedagogy and learning outcomes in the composition classroom. Research has shown that digital tools have a positive impact on the writing process. They increase feedback and communication with authentic audiences and multimodal composition opportunities (Noble & Paganucci, 2015). The quality of student writing skill also improved with word processing and other tools compared to pencil and paper, and the quality incrementally improved as grade level increased (Noble et al., 2015).

A collaborative study by the Pew Research Centre and National Writing Project has also shown the benefits of digital devices in the composition classroom as increasing collaboration among student writers and authentic audiences. The study examined 2462 professors, asking them how their schools and students are affected by digital tools (Purcell, Buchanan, & Friedrich, 2013).

Due to increased access to and use of such programmes, research on student writing in multimodal web-based technologies, such as Wiki platforms such as Google Sites and blogs, is still emerging. The transition from the alphabet to multimodal works through the use of current technology has been addressed by Pamela Takayoshi and Cynthia L. Selfe (2007). The integration of digital tools in a classroom can enhance the quality of writing by promoting students' knowledge. This has been demonstrated with word processing by Goldberg, Russell, and Cook (2003), while the Wiki suggest potential advantages by Dymock and by Hughes (2009) and Wheeler, Yeomans, and Wheeler (2008). In particular, tools that encourage cooperation and offer authentic viewers can improve peer review, teacher feedback and lead to critical thinking (Purcell, Buchanan, & Friedrich, 2013).

The literature suggests that certain applications can aid writing. Furthermore, the current world needs technology in helping to accomplish something, as well as in academic writing. Therefore, we developed this application to help accelerate writing by providing a guideline, methods, and skills to help in effective academic writing.

METHODOLOGY

The design and development research (DDR) approach is used to develop the software. Due to its pragmatism in testing theory and validating its practicality, the use of DDR as a select approach is justified. In addition, new methods, techniques and tools based on specific analysis of needs have been described (Richey & Klein, 2007). This methodology is also known formerly as research into development (Richey, Klein & Nelson, 2004), research based on design (Reeves, 2006; Herrington et al., 2007), and research on design (Bannan-Ritland, 2003; Van der Akker, 2007).

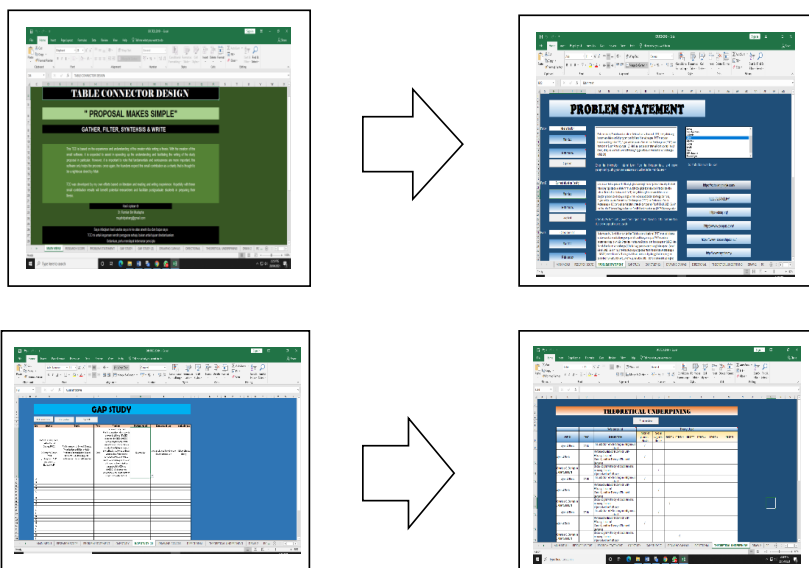
This software contains four main phases: the needs analysis phase, design phase, development phase, and evaluation phase. Each phase contains a specific method that is the needs analysis phase of the researcher to identify the problem, then the design phase of the researcher to formulate a basic software model, the third phase builds software while the fourth phase evaluates the usability of software feedback results from software users.

First Phase: Need analysis phase finding

After identifying the problems faced by most PhD and master students in writing their theses, they faced problems organising the content and structuring the writing to be more systematic. Most freshmen have trouble organising factual names and coordinating literature sources in writing. This causes students to often lose direction and lack focus in writing.

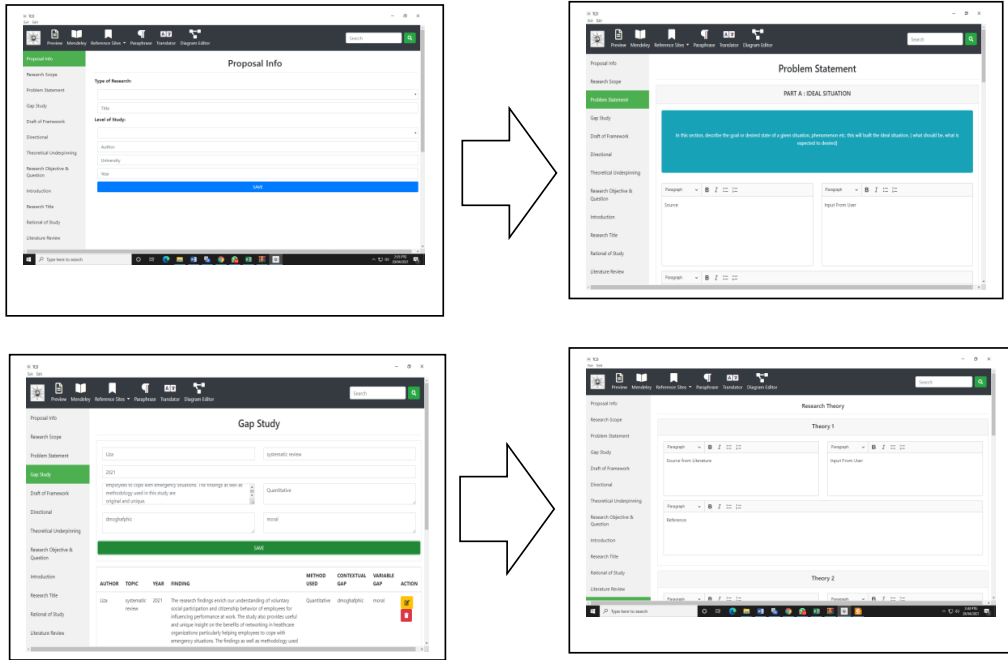
Second Phase: Design (Flow board)

The phase sees the researcher building a flow board in compiling this software. This includes arranging the main items according to the prioritised needs.



Third Phase: Development Phase

The third phase involves software development. Construction is based on flow mapping in advance, which contains the parts that need to be followed to use it correctly during the writing process.

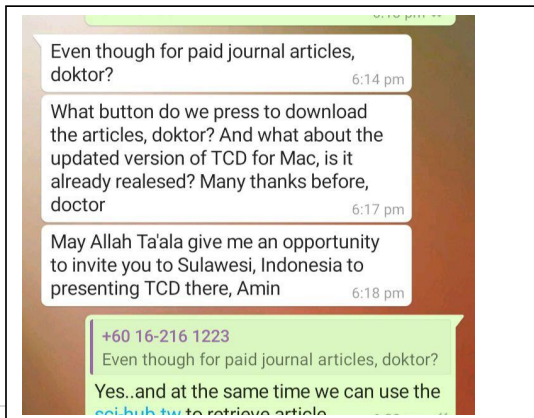


Example of development phase

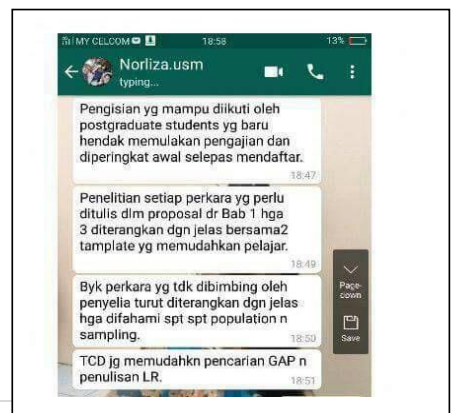
Fourth Phase: Evaluation

The fourth phase evaluates the product. Researchers receive feedback from users obtained from interviews distributed via Google Forms about the product.

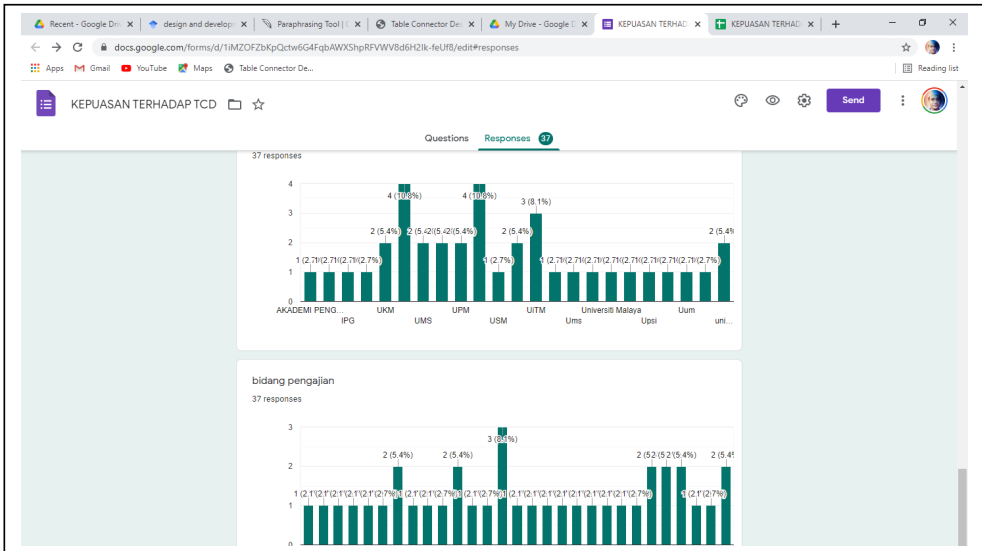
The Feedback from Indonesia



From Local User

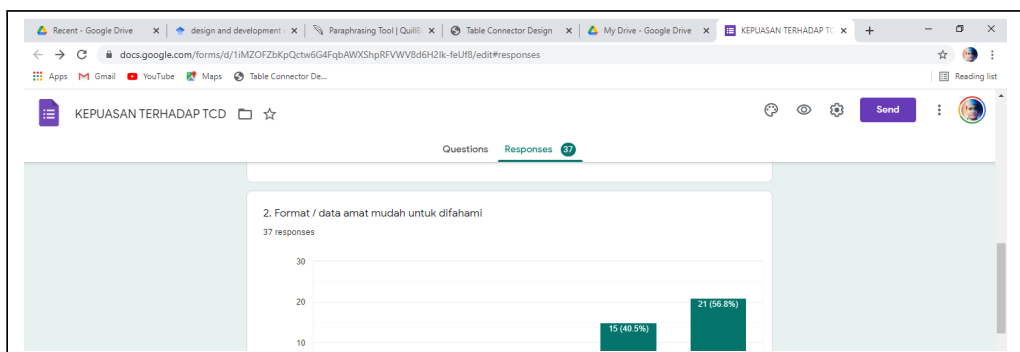


User data (University)



Satisfaction data

The software is easy to use	75.5 %
The format / data is very easy to understand	56.8%
User friendly	85%
This software meets my writing needs	78.4%
The above data was obtained from a customer satisfaction questionnaire administered using google form	



Impact to the user

This software directly assists researchers, especially students, in preparing to write their research proposals. This innovation focuses on the understanding and skills in organizing important information necessary in academic writing. As an added value, this TCD software can improve users' skills and understanding of problem-solving in academic writing.

CONCLUSION

This software is a structured, innovative and systematic technological innovation project facilitating the process of academic writing, scientific journals and others. Systematic writing needs to be planned with a robust method to strengthen the writing in a structured manner. Therefore, this software is able to strengthen academic writing to be more structured, clear and systematic while educating the writer on the demands of writing for different purposes.

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Cawangan Kedah
Kampus Sungai Petani

Faculty of Administrative
Science and Policy Studies

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