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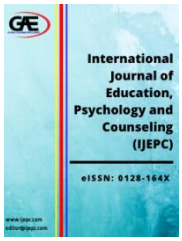

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TECHNICAL AND IMPLEMENTATIONAL ISSUES OF USING A VIDEO PLATFORM (FLIP.COM) FOR ONLINE LEARNING FOR TEACHERS IN KENINGAU, SABAH

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Abstract:

The recent Covid-19 health pandemic (2020 – 2022) had caused great concern for educators across the globe. Schools were closed under the Moverment Control Act of each respective country to curb the spread of the virus. School lessons were replaced with online sessions. **Purpose:** The main purpose of this research is to explore and share teachers' experience and perceptions for using an online video platform (flip.com) for teaching and learning. Teachers related these experiences via research workshops conducted at the 4 venues in Sabah. **Methods:** Data were elicited via the reflection notes approach and analyzed qualitatively to support the investigation. The researchers reported findings from selected a sample of 12 informants from the Kota Kinabalu Workshop, Sabah. **Results:** Eight out of twelve informants registered positive perceptions regarding the usage and suitability of flip.com for non-Mathematic subjects while negative comments were for the unsuitability usage for Mathematic, requests for professional development training and some technical issues while implementing the software. **Recommendation:** The research recommended that in order for an innovation such as flip.com to be accepted teachnologically by fulfilling the perceived usefulness and perceived ease-to-use components of the TAM Model, teachers' comments on the feature of usefulness, user-friendliness of the interfaces and technicality issues of the software must be considered closely by the software provider.

Keywords:

Technology Acceptance Model; Perceived Usefulness; Perceived Ease-To-Use; Teacher Professional Development, Technical Issue

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Introduction

The Covid-19 health pandemic spread throughout the world like rapid fire from late 2019 to the end of 2021. The World Health Organisation (WHO) stated that adults 60 years and older and people with underlying health conditions are at higher risk for severe disease and death. The decision for teachers to return to a teaching environment depends on the individual and should include consideration of local disease trends, as well as the measures being put in place in schools to prevent further spread (WHO, 2022).

In facing the VUCA environment such as "Volatile, Uncertain, Complex and Ambiguous", teachers faced serious challenges for sustaining teaching and learning activities in the schools at this difficult Covid time. The Covid-19 pandemic had caused teachers to be disillusioned and confused to a certain extent of their ability to deliver teaching and learning via a new normal and transformational learning methods where most of them were unfamiliar with. As such the feeling of uncertainty, worries and concerns over self-perceived abilities with hosts of issues and ambiguities hanged over the heads of a lot of educators. The rapid growth of online education has raised the need for educators to adapt their teaching practices to accommodate the digital landscape. By understanding and conforming to their beliefs and confidence, teachers can enhance their instructional strategies and create engaging and effective online learning environments.

Teachers are known to play the main roles as resource provider. At the beginning of the Covid-19 pandemic in Malaysia, teachers faced various challenges in term of professional development and ICT technical issues in producing online instructional materials for learning such as video. Experiences shared by the teachers at the research workshops at four venues (Kota Kinabalu, Sandakan, Tawau and Keningau) showed while trying hard to maintain regular teaching schedules, they were very stressful in coping with the increased needs of technology usage caused by the lockdowns due to the pandemic. The primary objective of this research is to report teachers' perceptions and issues faced while using the online video platform on flip.com. This article presents research-based recommendations for implementing a video platform for online learning that can work in a VUCA environment such as Covid-19. The guidelines recommended would be useful for the Ministry of Education (MOE) to handle health pandemic crisis in the future in Malaysia.

Literature Review

Instructional Resource Provider

Akram et al. (2017) in his study on the dimensions of Teacher Leadership Instructional Model proposed teacher as an instructional resource provider. According to Waters, Marzano, and McNulty (2003), it is the responsibility of teachers to be provided with essential equipment such ICT gadgets and platform to create teaching and learning materials for students engagement purposes in order to enhance student achievement.

Teachers as resource provider were defined as helping their colleagues by sharing instructional resources (Blasé &Blasé, 2006). These might include websites, instructional materials, readings, or other resources to use with students. They might also share such professional resources as articles, books, lesson or unit plans, and assessment tools. Materials shared online include multimedia materials such as videos, e-books, graphics and etc. Looking at the

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theoretical perspective, not all materials, software or online platforms can be accepted technologically.

The acceptance of a new innovation or technology for teaching and learning is subjected to factors such perceived usefulness (PU), perceived ease-of-use (EU) and the behaviourial intention to use it. The study of technology acceptance was first proposed by Davis (1989; 1993) and known is Technology Acceptance Model (TAM). The theory of TAM explains how the ways learners accept and use a new e-learning system. When encountering a new technology, the TAM Model looks at the learners' decisions on using it and the ways it is used. TAM studies two factors, namely PU and EU. TAM explores the behaviours of the learners by analysing the positive or negative behaviour of a user when adopting the new technology.

According to Davis (1993), PU is defined as the learners' perceptions regarding the outcome of the experience after using the e-learning system. If a new technology is useful and effective, it will enhance or improve the learners' job performance. On the hand, EU is the degree to which a new technology is easily understood or used (Donkor, 2011). It is also regarded as how much lack of effort that is needed by the learner to adopt the new technology. In other words, the degree to which users perceive a new product as better than its substitutes is known as EU (Davis, 1989).

In this research, the researchers studied the perceptions of the users using an online platform, flip.com for video creation and presentation. The perceptions were collected via the reflection notes during the research workshops. By analysing perceptions on a few aspects of the usage of flip.com, the researchers described the perceptions and experiences of the users in term of teacher as a resource provider when using the software. Themes like student's behaviour, suitability and usefulness of the software were also highlighted and discussed.

Suitability and usefulness of the software were categorised under PU of the TAM Model. According to Shroff et al. (2011), the usefulness of a system constitute a sound quality online learning materials that can determine the positive PU of an e-learning system. For example, software developers should build in more multimedia features to attract learner's attention and create responsiveness of teachers to learners' queries will increase the level of PU of the system.

On the other hand, the suitability of a system is tested to verify that the system can perform in accordance with the criteria set forth in the procedure. These tests were performed along with the sample analyses to ensure that the system's performance is acceptable at the time of the test (Heyden et al., 1999). If the users are satisfied and accept the system, it is deemed as suitable. In this study, the informants used the flip.com software and reflected on its suitability in the teaching and learning of the subject taught in the school.

Teacher Professional Development

Teacher training is the most important aspect of te career development of a teacher. Training is considered a challenging decision for school administrator, the principals, because of its complexity in determining several parameters that ensure the efficacy of the training programs (Becta, 2004). Some of much needed training objectives are teaching and learning methodology or pedagogical skills and training for the effective usage of ICT learning software. Such career advancement for teachers depended much on the oppurtunities and offers

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for the instructional skills training from the school principals (Blase & Blase, 2000). In a teacher leadership model, it is known as teacher professional develoipoment.

Researchers commented that lack of digital literacy skills and the unskilful integration of teaching method with ICT usage during lessons were big problem for enhancing academic achievement (Gomes, 2005). For example, according to study by Cox et al. (1999a), although teachers had attended ICT usage courses, some were still unable to integrate ICT in their daily lesson. Some only knew how to start a computer and do printing but unable to do electronic presentation. They managed to acquire some knowledge on the basic functioning of a computer and unable to design lessons that integrate ICT or multimedia components.

Such statements were agreed upon by researches by Balanskat et al. (2006). This group of researchers concluded that some teacher trainings by the education authorities were not appropriate or suitable for helping teachers to master the knowledge of ICT that can help them to design and create ICT-based lessons. The training program objectives did not align with the pedagogical needs and ICT skills required (Gomes, 2005; Balanskat et al., 2006). This statement was agreed by a study by Newhouse (2002) that stated "teachers need to not only be computer literate but they also need to develop skills in integrating computer use into their teaching/learning programmes".

This research explored teachers' thoughts on whether teacher professional development is needed for them to teach effectively. If training is needed for teachers, it will help to explain why "new innovations or software are accepted" and much required to achieve instructional objectives of the schools.

ICT Technical Issues

ICT integration in education generally means teachers master the utilization of learning technologies with ICT in the schools. In this new digital era, most students are familiar with technology. Teachers will be at a loss if they are unable to teach within the technology-based environment. Therefore, the usage of ICT knowledge in designing ICT-based instructions in in the classroom is compulsory. The result of the integration of technology in education in the lessons contributed greatly and will promote effective learning due to the contributions of ICT such as multimedia components (Jamieson-Procter et al., 2013).

Technology-based tools and equipment can enhance effective learning and lead to higher academic performance for almost all ranges of subjects from mathematics, science, languages, arts and humanistic to other major disciplines (Akin-Adaeamola, 2014); Siraj et al., 2015). Most students source and gather information and materials for research and learning from the internet. This was due to the fact that academic performance of the students can be enhanced via the help of internet technologies (Ogedebe, 2012).

The successes of of schools in term of academic performance throughout the nation depend a lot on the sufficiency of ICT infrastructure such as internet access, ICT equipment and computer labs. According to Hennessy et al. (2005), this dependency whether the subject teachers had easy access to ICT tools whenever needed. When this situation failed to exist, the lack of adequate ICT equipment and internet access will become one of the key problems schools will face. For example, research showed that some schools had computer but this could

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be limited to one computer in the office only (Chapelle, 2011). This situation is quite similar to problems faced by the majority of rural schools in Sabah.

When school teachers encounter technical problems, frustration and dissatifaction will exist among teachers and students and cause interruptions in teaching and learning process. Technical staff such as lab technician and ICT instruction designer were needed to provide technical assistance and solutions to ensure teachers could continue to use the computer and internet for teaching and learning activities (Jamieson-Proctor et al., 2013). As explained by the TAM Model, teacher dissatifaction is a major factor that contributes to the failure to accept an ICT innovation. As a result, teachers will be discouraged from using computers because of the fear of equipment and software failure since technical assistance is not guaranteed.

Many researchers revealed that technical obstacles were barrier in determining usage of technology for teachers. These problems include slow internet access, virus attacks, disruptions on the web, printer malfunction and etc. (Türel and Johnson, 2012). However, in the countries like Netherland and United Kingdom, which prioritised the importance of technical assistance for teachers to use ICT in the classroom (Yang & Wang, 2012). These countries viewed technical supports for teachers as high priority for the sustainability of ICT usage and the technological acceptance of new innovations. A study by Maila Rahiem (2020) on the key issues and challenges also found that ICT tools used by teachers were bound to have problems like limited accessibility and network connection, limited technical support, lack of effective training, limited time and lack of teachers' competency.

Research Method, Sample and Instrumentation

This research used the qualitative approach to do data collection via a case study. According to Mc Combes (2019), case study is commonly used in social and educational research to describe in detail a specific person, group, place, event, organization, or phenomenon that happens in the surrounding research zones. In this case study, reflective notes method was used to gauge the feelings and perceptions of the teachers. According to Shaughnessy et al. (2011), the reflective notes approach will guide the informants to deeply explore a specific topic to collect information. This approach is often used to assess thoughts, opinions, feelings and perceptions on any behavioural construct (Gravetter & Wallnau, 2015).

This research fully utilised the research workshops to meet the informants. Four research workshops were attended by the teachers from January to June 2023. 58 of them represented the population of the study. However, due to the limitation and different type of qualitative data collected, the sample of this research was selected purposively because only specified data from this group of teachers were relevant to the study. The selected sample was from the District of Kota Kinabalu.

The research will study the perceptions and issues faced by the teachers while implementation the curriculum while using the online video platform known as flip.com for the creation of videos for teaching and learning. However, only the data of the informants from the district of Kota Kinabalu (12 informants) will be reported in this qualitative report. Informants will be coded from P1 to P12 for the purpose of cross referencing. The researchers will only report selected data from the 12 informants in the finding section.

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The informants attended the 2-day research workshop in June 2023. On the first day, they were taught a to z on the use of the online video software, flip.com. The researchers' prelimary observations regarding the usage of flip.com was positive in term of perceptions, usefulness of the software and the ease-of-use of the interfaces. In the inafternoon, they were asked to fill up the reflective notes available via padlet.com. The notes were downloaded to be transcribed and analysed via thematic analysis manually. Theme such as "suitability" or "suitable" were grouped manually into meaningful phrases to be presented in the qualitative findings. Similar technique was used to map other themes such as "slow", "download", etc.

The instrument used in the research was a series of questions asked that were like an interview. The questions were modelled after the TAM Model where important questions pertaining to usefulness of software and ease-of-use were used. The questions were certified by a few psychology lecturers of the faculty in an earlier in-house research workshop. Some of the questions asked are as follow:

- What are your opinions of the suitability of flip.com for teaching your subject in the school?
- Is flip.com useful for your subject?
- Are the interfaces of the system user-friendly?
- How do students accept this platform? Do they like to use it?
- What are the technical issues encountered while using flip.com?

All the posts from the informants that were registered on the padlet were the raw data for this research. They were downloaded and transcribed into related themes for further qualitative analysis. This research will only highlight relevant data that corresponded to teacher as resource provider, teacher professional training and ICT technical issues while using the software, flip.com.

Results and Discussions

The analyses of the qualitative data from the 12 informants recorded in their reflective notes will be presented here. The three dimensions of teacher as resource provider, teacher professional training and ICT technical issues were discussed in accordance to advices stated in the Technology Acceptance Model (TAMS) (Davis, 1989; 1993) as a guide. In general, the qualitative data in the reflective notes were analysed and divided into three dimensions as shown in Table 1.

Table 1: Findings Of The Three Dimensions Of Teacher As Resource Provider, Teacher Professional Training And ICT Technical Issues

Dimension	Sub-dimension	Theme	Informant Code	Frequency
Instructional resource provider	Student behaviour	Characteristics of the student: ***shy, quiet type and passive***	P2, P12	2
		Confidence in learning	P10	1
	Suitability	(The flip.com platform is not suitable) for ***Mathematic*** discipline	P1	2
		(The flip.com platform is used) for ***non-Mathematic*** discipline (Science, social science	P3, P4, P5, P6, P7, P9, P11, P12	8

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		discipline → Bahasa Melayu, English Language, Islamic Education)		
	Usefulness	(The flip.com platform is) used for ***presentation*** replacing PowerPoint	P7, P8	2
		(The flip.com platform is) used for video ***sharing***	P7, P8	2
		Students' video ***project***	P5	1
Teacher Professional Development	Skills	***Not skilful*** (teacher)	P2, P3, P8	3
		Not skilful (student) → need to trained by the teacher	P8	1
Technical	ICT gadgets / equipment	***Insufficient*** ICT gadgets / equipment	P9	1
	Software issue	***Cannot download*** video from flip.com	P6	1
	Internet speed	Upload speed was ***slow***	P3	1

Instructional Resource Provider

Informants share their thoughts on their positive and negative perceptions in term of teaching and learning as an instructor resource provider. Teacher acts as instructional resource provider in almost all aspects related to teaching and learning. Students refer to teachers for guide on the types of instructive media that can be used for learning (Mazer, 2007; Mayer, 2009). The teachers will usually monitor students' progress via various instructional tasks that are engaged with learning. Students' learning behaviour especially the psychology aspect is also given consideration. Agosto et al. (2012) stated that useful observations on students learning behaviour that were related to psychology or cognitive aspects in learning can help them to analyse students' learning progress and achievement.

The TAM Model (Davis, 1989; 1993) showed educators that when teachers provide online learning materials for learning, aspects of suitability of the software and its usefulness must be carefully explored. Online learning software that came with unfriendly interfaces and difficult to master will make learning difficult especially those students that lack ICT competency skills. According to Zacharis (2012), teachers need to provide learning resources that are perceived to be usefulness and has ease-to-use features to ensure high students satisfaction on the online learning platform.

Table 1 showed that Informant P2 and P12 commented that the video software, flip.com was helpful and good for students who were passive, shy and quiet. They observed that students with such behaviour were those seldom speak much in the classroom. However, they were able to express themselves fully when creating the videos. The ability to create videos instilled belief of self-confidence in learning as expressed by Informant P10. This showed flip.com which has Web 2.0 features was useful for creating social interactions that enhances constructivist type of learning.

Research showed that understanding the students' problems, fear, or confusion will help to understand students' learning difficulties. Creating videos on flip.com helped the students to remove fears and established effective communication between teachers and their students

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(Rutherford, 2012). If no proper communication between teacher and students is available, both teaching and learning will become difficult. For this reason, teachers need to continuously monitor students in order to be aware of any trouble the latter are having.

Some of the perceptions shared by the informants regarding suitability of the online learning platform are as follow:

> "*After I learned the online video software (flip.com) I think it is useful because students refer the videos as guide, instructional and come with many examples from the teacher via YouTube*" (Informant P8)
>
> "*I felt that the online video software (flip.com) is not suitable for my subject, Mathematic. I felt is suitable for other disciplines*" (Informant P1)
>
> "*I think the online video software (flip.com) is very useful for Bahasa Melayu. It can present pantun and sajak (poems) in the video*" (Informant P3)
> "*I like flip.com because the upload of video to flip.com will save up a lot hard disk spaces. I can teach the students step-by-step on how to do uploading*" (Informant P6)

As showed by Table 1, informants agreed that the video platform (flip.com) was useful for presentation of instructional materials (P7 and P8). As such the teachers need technical supports and collaboration with fellow teachers to uplift the morale of teachers especially in the time of the health pandemic such Covid-19. This notion was supported by Beycioglu and Pashiardis (2015) who stated that in order to influence teachers' behavior and lead teams in attaining objectives of the school and their education policy, school principals must understand and collaborate with all the team members (teachers) personally and professionally.

As stated by The TAM Model (Davis, 1989; 1993), online learning software such as flip.com must have suitability in term of perceived usefulness and ease-of-use. These features helped the teachers to maintain positive perceptions while learning via the platform (Ozdamli & Uzunboylu, 2014). When a learning platform is easy to use or learn with user-friendly interfaces, most students will respond positively in learning reflections.

Table 1 also showed the analysis regarding suitability of flip.com according to disciplines. Informant P1 and P4 commented that flip.com was less suitable for Mathematic. However, other informants (P3, P4, P5, P6, P7, P9, P11, and P12) felt that it was suitable for other social science disciplines such as Bahasa Melayu, English Language and Science.

When it comes to Mathematics, many researchers also voiced similar comments due to its technicality, problem solving requirements and the use of mathematical formulas, etc. (Fuglestad, 2011). Although the software flip.com has some ease-of-use features, but Mathematic is considered as a difficult subject with lots of calculations and technicalities. A study stated Mathematics was complex and might not be easily accessible to all and requires a lot of practice to be able to understand and use it effectively (Ghavifekr & Wan Athirah, 2015). Therefore, some researchers such as Imam Sujadi et al. (2022) retaliated that it was essential to teachers to carefully evaluate the pros and cons before embarking on creating Mathematic videos for online learning.

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However, many informants in this research stated that other social science and language disciplines were quite suitable for online learning. This finding was also been agreed by Wilfred (2016) where according to his study on Thematic Digital Video Learning, he stated that creating videos for language learning can be quite meaningful as compared to Mathematic where formulas are involved which makes online interaction less effective because face-to-face sessions are needed to solve technical issues of Mathematic.

Teacher Professional Development

Among the comments of the informants were:

> *"The online video software (flip.com) although useful but not all teachers are competent in using the software – needs training"* (Informant P3, P8)

As mentioned earlier, for PU in the TAM Model to be successful, teachers must be provided technical supports as well as training on the usage and functioning of the software Shroff et al. (2011). This requirement was voiced by informant P3 and P8. They stressed not only teachers but students must also be trained in the functioning of flip.com in order for them to learn video creation effectively.

Teachers must be trained in the usage of technology to maintain teachers' confidence and competency in integrating ICT into pedagogical practice (Becta, 2004). In the Australian research, Newhouse (2002) found that many teachers lacked the knowledge and skills to use computers and were unenthusiastic about the changes and integration of supplementary learning associated with bringing computers into their teaching practices. It is similar in the study conducted by Balanskat et al. (2006) that showed the following remarks:

> "*In Denmark ... many teachers still chose not to use ICT and media in teaching situations because of their lack of ICT skills rather than for pedagogical/didactics reasons*"

ICT Technical Issues

Negative perceptions of teachers in term of teaching and learning such as technical issue were also shared by the informants:

> *"The upload of video to flip.com was slow."* (Informant P3)
>
> *"I cannot download video from flip.com"* (Informant P6)
>
> *"There are limited gadgets in the school to implement flip.com."* (Informant P9)

In curriculum delivery especially online learning, technical constraints were found to be a major barrier for teachers. These technical barriers included ICT gadgets and equipment, internet access which involved Telcos and the failure of teachers to be online and a host of other technical issues impeded the smooth delivery of the lesson or the natural flow of the classroom activity (Sicilia, 2005). For example, informant P6 complained of difficulty to download videos from flip.com which was considered a software bug. This problem will cause

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the perception of ease-to-use to be low and bring down the satisfaction level of the user (Ozdamli & Uzunboylu, 2014).

Slow internet access in Sabah is a big issue during the duration of the Covid-19 pandemic from 2020 to 2022. Most of the schools that registered this problem were interior and rural schools where internet access signals were disrupted or partially blocked by the vast geographical mountainous terrains of Sabah. As a result, teachers experienced slow internet access for online learning as illustrated by Informant P3.

However, this situation is not strange for Sabah. For example, in other countries, studies found that insuficient ICT gadgets such as computers and tablets, the running of ICT systems coupled with slow internet connectivity and little or no internet access were factors that affected technology integration in schools (Toprakci, 2006; Al-Alwani, 2005). Technical issues related to software usage cannot be avoided because most untrained users (teachers and students) will face them sooner or later and therefore, ICT technicians must be provided from time to time.

Recommendations

The researchers recommended the following remedies for each of three dimensions that were discussed. The following sub-section provided some recommendations.

Instructional Resource Provider

The researchers recommended that students utilise fully flip.com for activity such as video creation project. It is an important method for them to present and express their beliefs and thoughts in learning, be it behavioural, cognitivist or constructivist related curriculum activities. Due to the usefulness and suitability of flip.com for teachers, they should continue to utilise the software for teaching and learning activities for social science subjects in the schools. As mentioned by one informant, Science is also suitable for this software. This action will help to help to achieve the favourable technological acceptance for the software especially the component of PU.

Teacher Professional Development

If the schools wish to maximise the usage of teaching and learning software for all subjects, we recommended that school principals initiate proper planning of instructional teacher professional development program for all teachers. Principals must not be selective and ensure that every academic staff is sent for the respective software training. This action will also help to help to achieve the favourable technological acceptance for the software especially the component of EU.

ICT Technical Issues

Due to the difficulty and technicality aspects of all software including flip.com, it was recommended that school principals provide technical supports for the teachers while using the software. At least one ICT technician must be made available for teachers when technical issues crop up.

Conclusion

The study proved that teachers' acceptance of flip.com depends on many factors especially on the satisfaction factor and also the learners' PU and EU of the TAM Model. In teacher education programs, student teachers must be trained to be compliant with the pedagogical,

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technological and content knowledge using the resources available on the web and also the communities of learning (PLC) (Jordan, 2013). Leeds (2014) suggested that ICT training for teachers and students who are pioneer users must be implemented so that they do not experience culture shock that can affect their PU, EU and satisfaction when using the software.

This study proved that the teachers' perceptions and experiences in teaching and learning as written in the reflection notes were important feedbacks for policy planners of the Ministry of Education, Malaysia and schools principals to gauge the success and effectiveness of e-learning implementation. Therefore, future online platforms for learning must be designed not only to have user-friendly interfaces but also must act as useful resources for the teachers and students in the areas of teaching and learning.

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