



Research Article

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Improving Students Learning Strategy Trough Mobile Counselling Online Application

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Abstract

This study aims to implement an online guidance and counselling service-based mobile counselling online application (MCO) to make it easier for students to recognize their learning potential and create effective learning strategies. Quantitative and qualitative data collection methods simultaneously compare the presence or absence of convergence, difference, or combination. The results of multivariate statistical analysis showed differences in self-efficacy and achievement between students who used online guidance and counselling services and those who used face-to-face guidance and counselling services. The MCO application results effectively increase the linkage of their learning potential with learning styles. They help develop, select, and plan effective learning strategies with individual and individual characteristics. The MCO application during the COVID-19 pandemic is an alternative for unlimited guidance and counselling services that can be anytime and with anyone.

Keywords: Mobile counselling online, learning strategy, learning styles

1. Introduction

The era of globalization demands that humans must continue to adapt (Hidayat et al., 2022), to the development of information technology, especially in education. In recent years, psychological intervention through online counselling has increased due to the COVID-19 pandemic. The research findings of the therapist's online counselling experience combine environmental adaptation processes and improvement of therapeutic techniques, outcomes, and skills advancement for psychotherapists using online therapeutic interventions (Smith & Gillon, 2021); (Alwi et al., 2019). Advances in science and technology synergize with the ease of access to information services (Sirait &

Munir, 2019); (Reine et al., 2021) to meet the community's needs (Fatchurahman et al., 2022). The results showed a link between digital literacy skills and learning styles in building students' metacognitive strategies. Digital literacy skills support the ability to use computer and internet technology and search for digital information (Arono et al., 2022). Therefore, it is necessary to use information technology, especially in guidance and counselling, based on digital harmonization (Fahyuni et al., 2021). Research in Norwegian on the use of digital technology by educators has proven to improve and enhance professional digital competence for each of their students (Aagaard, 2022)

Advances in information technology are evidenced by the increasing number of internet users in Indonesia, reaching almost half of the total population, namely 54.68%. The survey results show that of the total population of Indonesia, 262 million people, almost half of them, namely 143.26 or 54.68% are active internet users. Internet users in Indonesia are ranked 5th after China, India, USA, and Brazil. Information technology is growing, demanding improvements in the pattern of counselling guidance services that can occur by teachers and students anywhere and anytime through internet access (Prihandoko et al., 2020); (Noor et al., 2019), and client privacy (Zainudin, 2018). The rapid development of information technology synergizes soft skills and hard skills in various fields. This Sidoarjo district has succeeded in building a "Smart City" by integrating multiple applications to support the optimization of services that are easily accessible to the public (Sule & Bastemur, 2015). There are still many shortcomings and weaknesses in the counselling service program felt by middle and high school students in Sidoarjo Regency during the COVID-19 pandemic. One of them is the limited frequency of school counsellor and client meetings. Counsellors' assessment in schools has not implemented instruments to help students identify and understand their potential. The COVID-19 period still provides limitations for teachers and students with face-to-face counselling service meetings. These various innovations utilize the development of digital technology to help the rules of face-to-face student counselling services in the form of digital counselling services to facilitate guidance and counselling services without limits of distance, space and time.

The MCO application facilitates student services to recognize their learning potential. The uniqueness of the MCO application is that it provides online counselling guidance services via smartphones. The MCO application facilitates the assessment of counselling guidance, including colour blindness, problem-solving tools, learning styles and multiple intelligences. Various assessment tools in the application MCO aims for students to understand their learning potential so that students can independently develop effective learning strategies (Fahyuni et al., 2021). MCO application helps the world of education in improving the quality of online counselling services without limits. Each student has a variety of potential learning styles whose percentage of potential is not the same. Learning styles into three things, namely visual. hearing and kinesthetic (Sari, 2014). The low student learning outcomes are due to the teacher's teaching strategies that have not been able to accommodate the uniqueness of individuals with the type of learning style they have. Therefore, an assessment is needed for students to be able to recognize and understand their learning potential (Mashurwati, 2018). Virtual counselling guidance in the new average period of the COVID-19 pandemic is essential to help facilitate unlimited counselling services with students understanding their potential (Peura et al., 2021); (Guabassi, 2018). Guidance and counselling assessment can identify information related to students' individual, social, learning, and potential problems that effectively increase self-efficacy and learning motivation (Golonka & Makara-studzki, 2019).

2. Research Method

The system of guidance and counselling services in junior and senior high schools in the Sidoarjo district is still in various forms of counselling guidance services. It is necessary to conduct in-depth research to analyse the types and forms of counselling services needed, especially in the current and future rapid technological developments. This research uses mixed methods quantitative and

qualitative to collect and analyze data in a study (Cresswell, 2014). As (Fahyuni et al., 2020); (Denscombe, 2008). Quantitative analysis to identify learning strategies in numerical and percentage form, then deepened using qualitative data based on information from informants through interviews and field observations. Mixed methods produce complete and comprehensive facts because of the breadth of researchers collecting data according to the needed type. The mixed-method has advantages, namely (a) it is consistent with a mixed approach, (b) accommodates a diversity of data, and (c) the choice of methodology in mixed methods (Cresswell, 2014). The population and samples spread across all schools in Sidoarjo Regency with 648 students. The distribution of junior and senior high school participants throughout Sidoarjo Regency is as follows:

Table 1: Distribution Participants

Participants	Criteria	Frequency	Percent
Grade School	Junior high school	402	62
	Senior high school	246	38
Gender	Girl	396	61
	Boy	252	39
Sosial Economic Parent	Low	104	16
	Moderate	408	63
	High	136	21

The population and samples of schools on a random sampling of junior and senior high schools throughout Sidoarjo regency with 648 students. The number of research participants was 402 junior and 246 senior high school spread across the Sidoarjo district consisting of 396 female and 252 male participants. The participants in this study varied from low financial status 104 students, medium 408 students and high financial status 136. The proportion of the number of samples taken aimed at collecting data on the need for guidance and counselling services for junior high and high school students in Sidoarjo Regency. The distribution of participants involved in the research of guidance and counselling services with the MCO application can be downloaded by students independently and consulted with their counsellors to help overcome various problems students face at school. The MCO application can be used for junior high and high school students and contains a colour blindness test, learning style test, problem-solving tool test, and multiple intelligence test. The results of quantitative data analysis confirm by qualitative analysis to reveal student problems and the types of counselling services needed during the COVID-19 pandemic. The Homogeneity and normality data descriptively and regression with the help of SPSS version 20.0. Descriptive analysis determines the validity of the guidance and counselling assessment, including colour blindness, problem-solving tools, learning styles, and multiple intelligences. The regression analysis determines the effect of online guidance and counselling online on increasing students' self-efficacy and achievement motivation at school.

The junior and senior high schools involved in this research are limited to schools with guidance and counselling services. Their forms are still diverse, such as using face-to-face services (conventional) and online counselling services with the MCO application applied. Triangulation of data through interviews, observations, and documentation by examining the continuity of the data obtained, the information used, devices, media, and learning resources that support learning activities, especially in online counselling new average period of the COVID-19 pandemic using the MCO application. This MCO application is not only student-centred. Teachers and principals can also be involved in it. With MCO results, students can continue consulting with counsellors using the application, based on exploratory factor analysis with quantitative and qualitative data obtained, counsellors can provide understanding to students on how to develop, plan and determine effective learning strategies according to their characteristics. School counsellors can also socialize learning problems and students' learning characteristics to the teacher council who teach in the classroom so

that the methods and learning media according to the needs of their students.

3. Discussion and Conclusion

The challenges and opportunities of the industrial revolution era are increasingly dynamic, especially in the development of digital-based technology. The development of technology in education has changed the traditional learning system into a modern learning system, thus requiring a new approach in the delivery of learning (Sirait & Munir, 2019). towards a digital society (Alwi et al., 2019); (Gros et al., 2016a), which is firmly attached to the lifestyle of modern society (Prihandoko et al., 2021). E-learning has become a distance learning strategy during the COVID-19 pandemic by which teachers develop competence using media, virtual collaboration and online learning experience and ease of learning for students (Riwayatingsih & Sulistyani, 2020). The use of the platform in e-learning requires other devices such as an android-based mobile. The results showed that the use of android-based learning media applications proved effective in helping students understand the lesson. E-learning development is not just presenting subject matter online but must be communicative and exciting. E-learning materials must design as if students are studying or face-to-face consultation with the teacher via a computer screen connected via the internet (Febrianto et al., 2020).

The study results show that internet and cellular-based psychotherapy that is not limited by distance, space and time is proven to facilitate services so that it can reduce symptoms of depression (Titzler et al., 2019). Android is the most popular communication tool that continues to grow and become an innovation for its users (Alwi et al., 2019). Therefore, digital technology in the education sector facilitates guidance and counselling services in schools. The innovation of digital-based islamic guidance and counselling services in the millennial era is unavoidable (Prihandoko et al., 2021); (Kadafi et al., 2021). Online counselling provides psycho-emotional intervention between counselees and counsellors using digital computers or smartphones via the internet. Online counselling is proven to be effective in delivering flexible (Zeren, 2019). Guidance and counselling services are essential to detect student learning potential (Fahyuni et al., 2021); (Roy et al., 2020). Online mobile counselling is an alternative problem solving that makes it easier for students to evaluate their learning potential (Sirait & Munir, 2019). This Android-based online counselling can help provide much convenience for students to consult without the time and place limits.

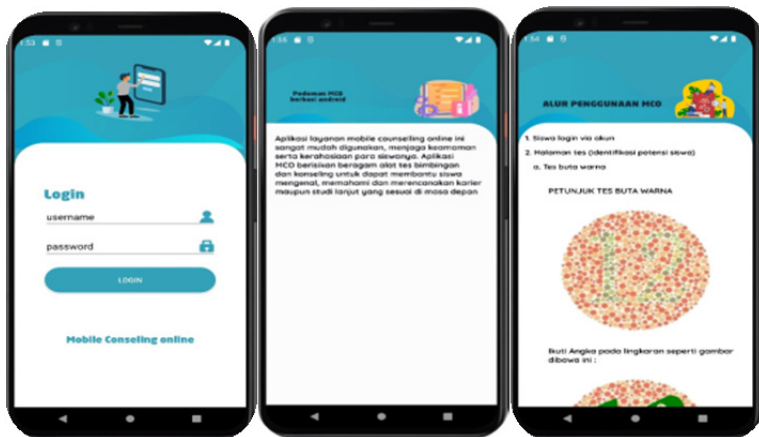


Figure 1: The Application Mobile Counseling Online

The MCO application in Figure 1 provides various features that aim to provide convenience for its users. In the MCO application, there are security factors available and security factors such as MCO

that can happen only to students who have a username and password account already available by the school institution. The available test tools are colour blindness, problem-solving, learning style, and multiple intelligence tests. Before students take the test on the MCO application, a complete guide regarding the types and benefits of each test tool they will choose; the tests that students test in seconds have completed will come out as results that can be downloaded for each student.

Each student has a different learning style: a visual learning style, audio, and kinesthetic (Kolb, 2000). The results showed a reciprocal relationship in improving student achievement between understanding their learning styles and preferences for assessing their learning methods. Thus, to improve student learning outcomes, need to study their learning potential to help develop effective learning strategies (Ali Reza et al., 2019). Digital literacy skills and learning styles play a role in improving students' meta-cognitive strategies (Arono et al., 2022); (Gros et al., 2016b). During the COVID-19 pandemic, counselling did not allow face-to-face services. Therefore, it is necessary to innovate guidance and counselling services that use various interactive social platforms such as PCs, PDAs, tablets, and telephones connected to the Internet of Things (IoT) (Abdullah, 2019), in the form of assistance, cybercounseling (Petrus & Sudibyo, 2017). The results of the research show that online counselling services are proven to be effective improve student achievement (Hernawati et al., 2018); (Alzaylae et al., 2020), with students capable of problem-solving (Haryani & Masfufah et al., 2018), and able to adapt to their new environment (Koper, 2014). This innovation android-based online guidance and counselling that can facilitate the needs, comfort and confidentiality of its users.

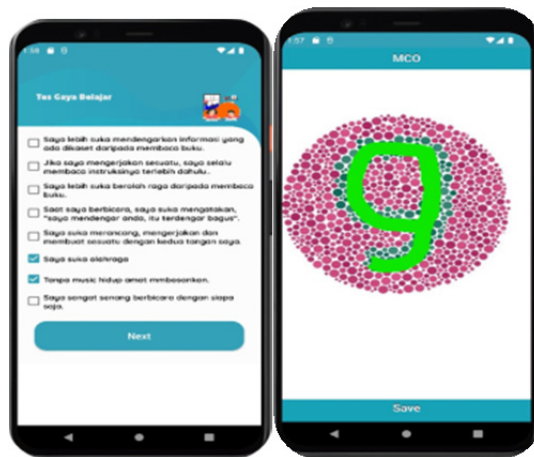


Figure 2: The Assessment of Application Mobile Counselling Online

In Figure 2, students can conduct online guidance and counselling assessments using the MCO application very quickly, and the confidentiality of their data is guaranteed. In the MCO application, various guidance and counselling test tools are available that can help students recognize and understand their learning potential to help students choose and develop effective learning strategies according to their characteristics. Students can study the results independently and choose to consult with their counsellor at this stage. Students can choose which counsellor they want to prove using a chat and get feedback from the consultation by referring to the test results they have been looking for. After consulting online using the MCO application, students can press the start button as a symbol of satisfaction with school counsellors' online guidance and counselling services. The problems faced by students certainly provide their wisdom. Students who are successful with problem-solving will increase their resilience. Resilience cannot arise by itself, but it requires the process and assistance of guidance and counselling services in digital-based schools to suit the needs

of the current pandemic era (Prasetyo et al., 2022); (Glassman et al., 2021); (Rafique et al., 2021). The study results showed no significant difference between online counselling and face-to-face counselling applied in Turkey regarding the comfort and satisfaction of each participant. Online counselling during the industrial revolution can be an alternative mobile counselling guidance service without limits on distance, space and time (Zeren, 2019).

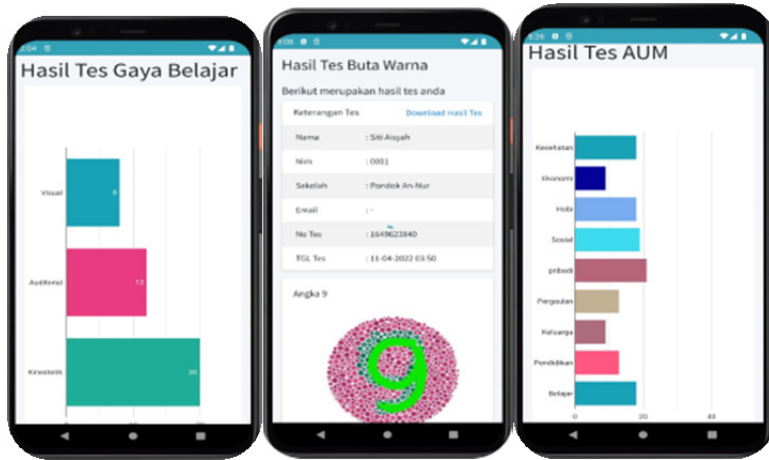


Figure 3: The Assessment Result of Application MCO

Figure 3 shows the guidance and counselling assessment results in the form of pictures and graphs to facilitate students' understanding in analyzing and understanding their learning potential. The assessment results on the application that students can download in a short time are beneficial for students to formulate and develop their learning strategies effectively and independently. This digital-based online guidance and counselling service allows students to independently solve problems by getting to know students to know and recognize themselves. Thus the MCO application in its application in schools has proven to be very attractive to students because of the convenience and confidentiality of the data and the services that students can get without limits on distance, space and time. For this reason, students need to design effective learning strategies according to their potential. The results showed that someone who had low self-efficacy impacted their learning outcomes. Someone with high self-efficacy is more adaptable and has strong self-confidence in overcoming problems. (Wilde & Hsu, 2019); (Raley et al., 2021). Self-confidence plays an essential role in a person because self-confidence can help individuals to show their best abilities. Motivation is an essential source for students to be enthusiastic and move towards achieving their learning achievements.

Each student has a unique learning style divided into visual, auditory and kinesthetic types (Kolb, 2000); (Sari, 2014). The results show that students who understand their learning style positively improve learning outcomes and develop learning strategies according to their learning potential (Ali Reza et al., 2019); (Mashurwati, 2018). Therefore, guidance and counselling services need to bridge students to realize their learning potential so that students can design effective learning strategies according to their unique characteristics. Guidance and counselling integrated with digital technology that facilitates students to conduct consultations (Fahyuni et al., 2021) and advice through seamless mobile media combined with Islamic values and scientific values have proven to increase student motivation and learning outcomes in schools (Fahyuni et al., 2020). Learning limitations during the COVID-19 pandemic require counsellors to innovate on android-based counselling and guidance online.

The research shows that learning styles depend on the educational intervention provided. Student learning styles follow digital skills in learning. The frequency of using digital technology affects students' digital knowledge for the better. Utilization of learning using digital adaptation media variations and improvement of student learning styles become more complex and innovative (Zacharis, 2011); (Obermeier et al., 2021). Learning styles are related to concentration, processing messages, internalizing, and managing new information. A person's learning style varies according to age, culture, habits, and gender, three learning styles: 'visual,' 'auditory,' and 'kinesthetic' (Kolb, 2000). Learning styles consist of concrete experience, reflective observation, conceptualization, and direct action. Individuals have diverse learning styles manifested by natural ways, habits, and preferences for acquiring, processing, and storing new ones. Learning using a learning style sensory modality approach can increase students' active learning. Therefore, teachers need to encourage students to understand their learning modalities to be able to develop good learning strategies (Fathi & Hamidizadeh, 2019); (Yaumi et al., 2018).

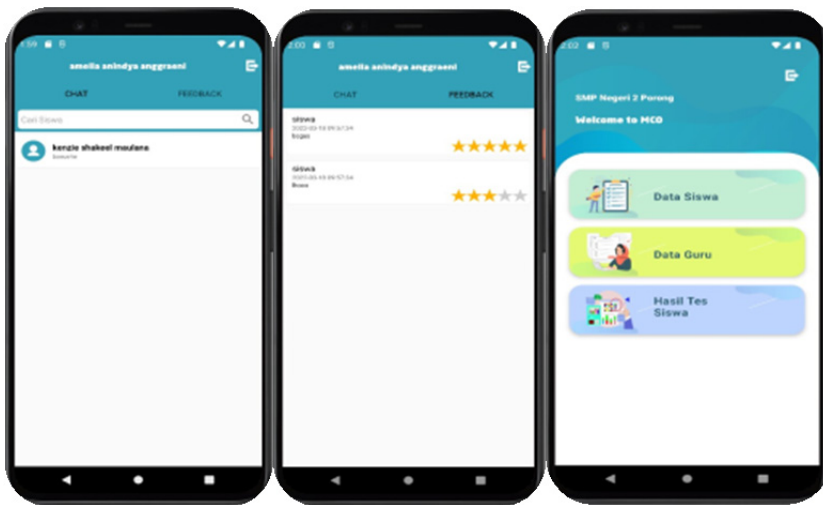


Figure 4: MCO With Counsellor

Access to principals on the implementation of online guidance and counselling services using the MCO application can be started and monitored regularly and continuously. Through the MCO application, principals can assess the services of clients, namely clients. Counsellors who provide optimal counselling services and students feel satisfied can help find a suitable solution for themselves and give a star symbol. The more students who give an asterisk, the more the service is considered reasonable by students. On the other hand, a small number of stars were given, meaning that the counsellor's services provided to students were not considered suitable. From the MCO application, the principal can control and fix the best counselling guidance services provided by the school as its flagship program. Learning strategy is a pattern or combination of various student academic activities to achieve learning success in terms of learning strategies related to characteristics, discovery and problem solving to acquire new skills needed in the future. Learning strategies are learning activities to achieve learning objectives. Learning strategy is a series of stages to make learning easy and fun for students to achieve the ultimate learning goal. Learning strategies require several processes to achieve specific goals during the learning process (Prasetyaningrum, Ari et al., 2020). Students' learning strategies include metacognitive, compensation, cognitive, affective, memory, and social process (Yulianti, 2018).

Learning strategies are students' capital to acquire knowledge. Students can have a variety of

potential to acquire knowledge. There are three learning strategies: metacognitive strategies, cognitive strategies, and socio-affective strategies. Learning strategies are constructive for students to increase the acceptance of information. Learning strategies determine the improvement and development of student competencies in the future. Thus, teachers must find the best teaching techniques to help students understand their weaknesses and strengths to help them develop effective learning strategies. (Basalama, 2020); (Ardiansyah & Diella, 2019). Motivation is closely related to self-confidence. Motivation is a form of student effort in managing their potential. The provision of online guidance and counselling services in a school environment setting to help increase self-efficacy and achievement motivation. The results showed a relationship between changes in motivation and student learning comfort. The convenience of many factors that affect students, the learning environment, teachers, and peers are also the main factors that most influence the success of student learning in school.

Online counselling innovation supports the government's program as a "Smart School" implemented in the Sidoarjo district (Fahyuni et al., 2021), by utilizing digital technology to maximize services for students (Kumara et al., 2019); (Alzaylae et al., 2020). "MCO" mobile online counselling is a new concept that helps students maximize their learning capacity during the learning process. This MCO application is easy to use by smartphones. MCO determines whether a person can learn or not. Colour blindness tests, learning style tests and other intelligence are available on mobile (Fahyuni et al., 2021);(Noor et al., 2019). The app includes test results and sessions with qualified counsellors and psychologists, digital-based counselling can help students obtain and conduct counselling to help them deal with various problems.

The MCO application helps identify student learning potential in independently developing and planning learning strategies. Students' understanding of their learning potential through the MCO application effectively increases self-efficacy and achievement motivation in junior high and high school students. The use of digital technology is directly proportional to digital literacy and the ability to recognize learning potential (Aryani et al., 2018); (Crompton & Sykora, 2021). The MCO application offers convenience, comfort, and privacy for its users with the facility that students can conduct online consultations without the limitations of space and time. Students can use unlimited online counselling services to access materials, take counselling advice exams, and talk to the student's chosen counsellor on a digital basis. Guidance and counselling services prioritize identifying students' potential so that the learning process can run smoothly (Fahyuni et al., 2021). Online psychotherapy has proven to be effective in helping clients overcome their problems without the limitations of distance, space and time (Titzler et al., 2019).

MCO application is an unlimited guidance and counselling students can do it anywhere, anytime and anywhere. The MCO application is easy to use and contains various assessment menus for students, namely colour blindness, learning styles, problem-solving tools and multiple intelligence tests. (Fahyuni et al., 2021). This application includes test results and online consultation sessions with counsellors to help students overcome their various learning problems, select and develop effective learning strategies that suit their characteristics. The development of technology in the millennial era demands innovation in online counselling guidance services that are not limited by distance, space and time. Students get the convenience of Android-based online. Guidance Counseling services to facilitate their learning needs and various problems. In essence, students in schools do not only have to study; students also sometimes have problems that require a counsellor to help them. Students who fail to overcome their problems impact their learning achievement.

The findings of online counselling guidance services apply, but the service only focuses on general problems and focuses on counselling actions. The novelty of the MCO application produced can help students develop effective learning strategies according to themselves MCO novelty provides accessible services for students using only personal smartphones. MCO, in its development, focuses on security, privacy and user convenience. MCO provides a consultation feature with counsellors, and school principals have access to be able to control and monitor the implementation of MCO-based counselling services more flexibly. The impact of the COVID-19 pandemic is that

guidance and counselling services are limited to face-to-face. For this reason, it is necessary to innovate online guidance and counselling services by utilizing various platforms such as PCs, PDAs, tablets, and telephones (Guabassi, 2018), connected to the Internet of Things (IoT) (Sule & Bastemur, 2015); (Zainudin, 2018), with cybercounseling (Petrus & Sudiby, 2017)). Online counselling helping students with learning problems (Hernawati & Al., 2018); (Haryani & Masfufah et al., 2018) and their learning comfort (Koper, 2014); (Haris, H. Haryanto, 2020). The Android-based online guidance and counselling innovation support the government's program as a "Smart School" implemented in the Sidoarjo district by utilizing digital consulting services (Kumara et al., 2019).

Learning strategies are individual learning patterns to achieve learning success. Learning strategies are a series of learning activities designed to be easier and more enjoyable to achieve the expected goals (Prasetyo et al., 2022). Learning strategies involve metacognitive, cognitive, affective, memory, and social interaction processes (Rindaningsih et al., 2019). The results showed that the learning strategy depends on the opportunity and the expected goals. Learning strategies are essential for every student in choosing and compiling effective learning strategies according to their potential. Thus the role of the counsellor is necessary to help students recognize and understand their learning potential to make it easier for students to develop effective learning strategies (Basalama, 2020); (Ardiansyah & Diella, 2019). MCO application facilitate complete services for students, counsellor and headmaster with various features that make it easy for its users.

4. Conflict of Interest

MCO facilitates identifying students' learning potential to help students select, organize and plan effective learning strategies. The MCO application results are effective in increasing linking their learning potential with learning styles. The MCO application provides online counselling guidance services that can be carried out by students independently. Students can make the MCO application without distance, space and time limits with their smartphones. The MCO application guarantees client confidentiality and provides consultation features that students can choose from the counsellor they want. The MCO application is very suitable for the digital era and current technological developments.

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