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IMPROVING E-LEARNING ENVIRONMENT IN TEACHING INDONESIAN AS A FOREIGN LANGUAGE

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Abstract
This article explored e-learning environment in teaching Indonesian as a foreign language (TIFL) context. This study utilised a mixed method for data collection, including interviews and observations. There were six teachers, one IT staff member, and three curriculum developers involved in the interview. Observations were conducted with the teachers to identify their instructional activities and how they used artefacts in the e-learning environment. In this study, the use of Learning Environment, Learning Process, and Learning Outcomes (LEPO) Framework is described to evaluate the quality of the e-learning environment in TILF. The results of this study indicate that e-learning programs in TIFL must be designed with an emphasis on the intercorrelation of the dimensions that build e-learning so that the learning process takes place effectively and meaningfully. One of the important factors is how to create an effective e-learning environment. E-learning environment provides contexts in which the learners work with technology, e-learning artefact, the internet, and virtual communication to improve their language skills. In such contexts, the e-learning environment also presents challenges for both learners and teachers to use information technology effectively to maintain their learning process. The institution needs to re-engineer the e-learning artefact, mainly tools and learning objects, optimally to create a sense of presence in the e-learning. In addition, curriculum developers need to redesign the concepts of e-learning environment with integrated pedagogical and technological domains/dimensions, interface design, as well as evaluation in the e-learning programs.

Keywords: artefact, e-learning, environment, learning outcome, technology

Introduction
The development of technology, information, and communication with all the supporting systems and artefacts should be utilized to ensure the accountability and improvement of learning programs. The utilization of these technologies in foreign language learning, including Indonesian Language for Foreign Speakers, has the potential to improve the quality of learning in five areas: organization, input, output

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and interaction, feedback, and collaboration (Frank et al., 2008; Nagy, 2021). First of all, technology helps learners and teachers to interact collaboratively in various learning contexts. Second, technology can expand access to the target language input coverage compared to that provided in the class or in the curriculum. Technology also creates learning opportunities for learners to get input individually. Third, technology provides ample space for learners to design their learning processes and outcomes both online and offline when interacting with learning partners. Fourth, technology creates opportunities for teachers and learners to provide and receive personalized feedback. Fifth, technology can enhance learners' collaboration by engaging them in synchronous and asynchronous social interactions outside the classroom.

E-learning is a term that refers to various forms of technology that support the learning process that including the application of knowledge, information, and technology that supports learning to connect learners with other learners as well as with various educational resources for educational purposes (Ehlers & Hilera, 2012). E-learning is one real example of the use of such technology in learning. With diverse technological tools, e-learning encompasses a wide spectrum of activities involving multiple participants with a wide variety of learning processes ranging from blended learning to entirely online learning (Pearson & Trinidad, 2005). Furthermore, Gros and Garcia-Penalvo (2016) emphasize that e-learning describes learning that is delivered fully online where technology mediates the learning process. These practices involve the mutual influence of technological e-learning platforms and pedagogical models. These various technological devices, the surrounding factors, relationships, and communications developed among various parties form an e-learning environment that must be developed in a planned, systematic, and measurable way so as to achieve the learning objectives effectively.

This study focuses on the evaluation of the e-learning environment in the Indonesian as a Foreign Language Program. This study is important to conduct to find out the effectiveness and sustainability of the e-learning program with its various support components by systematically evaluating the program based on accountable standards. The novelty of this study lies in the model used as the evaluation framework of an e-learning program.

Literature Review

E-learning environment

E-learning is a learning process and product that optimizes the use of internet-based computer technology to facilitate learning both face-to-face and non-face-to-face. To facilitate this process, it is necessary to develop artifacts that are appropriate to the goals and methods of e-learning. Artefacts in this context are defined in two ways. First, artefacts refer to devices developed using information and communication technology. Second, artefacts refer to the learning tasks designed using the technology tools. Learning tasks that utilize technology can be in the form of digitally documented language practice exercises, solving language games, quizzes, or completing written assignments based on multimodality. Completion of these learning tasks is directed at developing learner interactions with various learning resources in diverse learning environments (Philips, McNaught & Kennedy, 2012). From the above definition, it is clear that to implement e-learning, computer-based devices, internet, and multimedia are

necessary to be provided and optimized to support learning interaction and to accomplish the learning tasks effectively. Therefore, an e-learning program must be supported by computer/internet-based information technology devices and a series of synchronous and asynchronous learning activities that are designed systematically.

The system utilization of this technology will support the learning process from the delivery of information to the cognitive processing in the learning process. This technology also allows easier access to the internationalization of learners' individual study. They will be assisted in meeting and exchanging ideas with many people in cyber forums without the constraints of time and space (Sirkemaa, 2014). The important concept of e-learning above is based on the underlying view of the learning concept that consists of three components: (1) learning environment, (2) activities that are part of the learning process, and (3) knowledge, behaviour, demonstrable skills or understanding (learning outcomes). These three components are the center of building an e-learning atmosphere that involves learners, teachers, and learning resources in an effective learning environment (Phillips, McNaught, & Kennedy, 2012, pp. 27-41). This e-learning environment provides a context that enables learners to work with technology, e-learning artefacts, the Internet, and virtual communication to enhance their capabilities. The context of this study is language abilities and skills. The creation of a technology-based learning environment has a positive impact on mastery of linguistic and cultural aspects, development of language skills, and improvement of learners' digital competence. In this context, the e-learning environment also provides challenges for learners and teachers to utilize information technology effectively to manage the teaching and learning process. The success of this e-learning environment is determined by these factors: (1) objectives, (2) learning materials, (3) instructional design, (4) learning tasks, (5) teacher's roles, (6) learner's roles, (7) utilization of technology, and (8) assessment (Reeves, 2006). In addition, e-learning environments should be designed according to the characteristics of learners so that they can engage intensively in various learning activities and share their learning outcomes (knowledge, skills, and attitudes) in their study groups or communities (Goodyear & Ellis, 2010; Nam & Smith-Jackson, 2007). Therefore, designing and implementing effective e-learning programs is a complex process that involves many factors, including infrastructure, content quality and assessment, as well as the quality of learning support systems. In addition, learners' and teachers' perceptions and assumptions related to the e-learning environment also greatly affect the success of the e-learning process itself.

For that purpose, e-learning environment planning is necessary to create various new forms of learning experience and interaction with a variety of learning resources. The integration of technology in e-learning goes beyond simply introducing computers and other forms of technology in the classroom, but also combining two or more things to form a unified whole for the effectiveness and efficiency of achieving the e-learning objectives. When information and communication technologies are integrated into an e-learning environment, technology is put as an integral part of other learning and teaching components. Technology integration in an e-learning environment requires a change in various instructional components that include: (1) digital sources, (2) the role of teacher and learners, and (3) the instructional activity itself. These components must be unified

in the development of instructional strategies (Cennamo, Ross & Ertmer, 2010). Access to this e-learning environment, especially online tools, allows learners to choose different tools and learning styles to suit their personal goals and preferences and allows them to adjust or balance the individual and social dimensions in the learning process (Andreicheva & Latypov, 2015; Crabbe, Elgort & Gu, 2013).

Learning process refers to the various activities and ways undertaken by the learners in the learning environment to improve competence both contextually and cognitively. Contextually, learners engage in various learning activities, work on a series of tasks, interact with the learning environment, are involved in individual and group activities, and reflection activities. Meanwhile, the cognitive process includes all the cognitive activities that contribute to the learning process (problem solving, knowledge construction, and reflection). This learning process also includes the approach applied in the learning process that involves the interaction of learners with other learners, learners with teachers, learners with resources and materials, and learners with the learning environment (Phillips, McNaught, & Kennedy, 2012).

Learning outcomes are what learners can demonstrate as a result of their involvement in the learning process. There are three types of learning achievement: (1) subject-based outcomes, (2) personal transferable outcomes, and (3) generic academic outcomes. Subject-based outcomes are related to learning achievement related to disciplines whose level of achievement may use certain taxonomies (e.g., Bloom's taxonomy or SOLO taxonomy). Personal transferable outcomes include individual work accomplishment, collaboration with other parties, use of information technology, information gathering, effective communication, and organizational skills. Meanwhile, generic academic outcomes include the use of information, critical thinking, analytical skills, and the ability to synthesize ideas and information. The above learning achievement should appear in the context of an e-learning environment (Phillips, McNaught, & Kennedy, 2012).

Method

This evaluative study employed the LEPO Framework to evaluate the e-learning environment in one of the institutions that focuses on foreign language teaching and learning, particularly teaching Indonesian as a foreign language (TIFL). The LEPO framework focuses on four scenarios in the e-learning evaluation (Phillips, McNaught, & Kennedy, 2012). The first scenario focuses on evaluating the potential of new technologies used in the learning and teaching process. This scenario refers to the emergence of new forms of technology that can serve as alternatives in the learning process. The second scenario focuses on evaluating the development and implementation of e-learning artifacts. This evaluation allows us to know the level of quality of the e-learning artefacts development projects. The third scenario focuses on evaluating the e-learning environment design. The scenario describes a phase to assess and evaluate the suitability of the integration of e-learning artefacts into the learning environment and to further evaluate the conformity of the learning environment to the e-learning's initial objectives and design. The fourth scenario emphasizes the evaluation of the effectiveness of the e-learning environment. Evaluation with this scenario focuses on the learning process and achievement undergone and achieved

by the learners, and makes decisions or judgments based on those processes and achievement.

There were six teachers, one IT staff member, and three curriculum developers involved in the interview. The teachers involved in this interview were teachers who already had experience in teaching e-learning for the TIFL program for at least two years and were also involved in the designing, implementation, and evaluation stages of the e-learning program. The IT staff interviewed were the staff who had technological competence in the planning, implementation, and evaluation of e-learning and had been involved in the technical development of the e-learning programs from the beginning. In the meantime, the three program/curriculum developers were the team that was intensively involved in designing the TIFL curriculum for both regular and e-learning programs. Prior to data collection, all participants provided informed consent after receiving a detailed explanation of the study's purpose, procedures, potential risks and benefits, and their right to withdraw at any time. Anonymity was ensured and all data is stored securely.

Interviews and observations were conducted to obtain research data. Focused interviews were conducted to obtain structured data from technology development, curriculum design, and teachers (Lodico, Spaulding, & Voegtle, 2010). These focused interviews were used to explore the programs and forms of technology already in use, the level of technological literacy of teachers and learners, and the context of the learning environment that supports the implementation of e-learning programs.

Observations were conducted with the teachers to identify their instructional activities and how they used the e-learning artefacts in the e-learning environment. This observation focuses on the interaction patterns that are built in the e-learning process and the interactivity capabilities of technology in facilitating these patterns, including the effective use of e-learning artifacts.

Findings and Discussion

The results of the study indicate that (1) the institution has adapted new technology in implementing the TIFL e-learning program, (2) e-learning artefacts have not been developed optimally, especially the artefacts which can create a sense of presence in the e-learning program, (3) the synchronous learning process in the e-learning program has not been explored optimally and is still limited to speaking activity (4) the design of e-learning environment has not been integrated with the e-learning curriculum (Nugraha, 2021).

The needs related to technology assets show that the institution is still looking to find the most adequate form of technology to conduct the e-learning program. Multimedia computers have been installed with Skype software to serve as the main software for conducting e-learning. This software is chosen to ensure the smooth interactivity of the learning program. Supporting features in the Skype software enable the interaction between teachers and learners and the distribution of lesson materials and instructional media. In the instructions, teachers make the best use of the *share desktop* facility to allow other teachers access to the lesson materials and instructional media directly without any differences in the learning formats. These results are in accordance with Tymoshchuk's research (2022), which states that learners will be facilitated in improving their language and cultural skills. It is also proven that learners get a pleasant atmosphere in learning the three forms of

technology according to their needs. Thus, e-learning is one form of effective and innovative technology optimization that can improve the language teaching and learning process.

The strategy to achieve the objectives of the TIFL e-learning program is to create a classroom atmosphere supported by a variety of features to conduct the TIFL e-learning process effectively. Through this strategy, learners are expected to be virtually present in the class and interact with the teachers and other learners online. The strategy is supported by the newest e-learning technology utilization scheme, namely the adoption of e-learning technology called Skype and its features. The next project is to develop a special learning management system as commonly applied in the onsite/regular program, such as the Student Management Information System. The utilization scheme of the newest technology is expected to further develop the quality of the e-learning program. This finding is reinforced by the results of studies by Ibrahim, Spitsyna and Isaeva (2021), Chetty et al. (2018), Rosen (2020), and Gharib et al. (2016) who state that e-learning can create personal learning opportunities for learners by fulfilling three important factors: the availability of infrastructure to provide access to information and learning resources, good digital literacy skills, and readiness to accept new technologies.

Some of the problems that arise in the e-learning program at this institution are: 1) the technology format is not yet appropriate in the e-learning learning environment, 2) the digital-based learning environment needs to be improved in quality, 3) the technological literacy of teachers and students needs to be improved so that the e-learning process runs effectively, and 4) the need to increase capacity and internet access. Based on the interview results, the potential problems identified are that the technology format is still not able to create a sense of presence in the e-learning class. In addition, there is no soundproof physical space to organize the e-learning program.

E-learning artifacts and technological tools are available and managed to facilitate the synchronous and asynchronous processes that TIFL learners use to interact with one another. Synchronous and asynchronous interactions are carried out using Skype, supported by Share Desktop, Skype player, and other multimedia programs to facilitate speaking, listening, and reading lessons. Meanwhile, the delay method is applied in writing lessons to follow up on the reading lessons based on the reading materials and exercises sent earlier to the learners' emails. Learners' responses to the reading texts must be submitted in written form to the teachers through email. The e-learning artefacts, i.e., lesson materials and media, are stored in the computers, which are easily accessible by both learners and teachers.

The results of the study indicate that (1) new technologies have been implemented in the TIFL e-learning program, (2) the need to improve e-learning artifacts, especially those that can provide a sense of presence of various learning resources (3) the need to improve synchronous modes to improve language and cultural skills, not just speaking skills, (4) the need to integrate all dimensions of e-learning in an integrative curriculum design.

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enable the interaction between teachers and learners and the distribution of lesson materials and instructional media. In the instructions, teachers make the best use of the *share desktop* facility to allow other teachers access to the lesson materials and instructional media directly without any differences in the learning formats. This finding is supported by the results of the study by Biletska, Paladieva, and Avchinnikova (2021), which states that when preparing teachers to use digital technology in learning, it is very important to prepare this process correctly. New technologies are the right form to communicate various information. In addition, technological changes must be added gradually in the educational process. The combination of training devices must be adjusted to the old devices to ensure the effectiveness of the process. This is necessary for the development of advanced technology in learning.

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Potential problems that need to be fixed in the implementation of e-learning programs are: 1) forms of technology that are appropriate and in accordance with the e-learning learning environment 2) physical space based on technology so that teachers can facilitate the interaction process that is disturbed by other sounds, 3) increasing technological literacy of learners and 4) improving the quality of the internet network. Based on the results of the interview, the potential problem identified is that the form of technology is still not able to build interactions as face-to-face interactions.

The program management design was supported by the existing e-learning artefacts and technology to enable the TIFL learners to interact synchronously and asynchronously. Synchronous and asynchronous interactions are carried out using Skype, supported by *Share Desktop, Skype player*, and other multimedia programs to facilitate speaking, listening, and reading lessons. Meanwhile, the delay method is applied in writing lessons to follow up on the reading lessons based on the reading materials and exercises sent earlier to the learners' emails. Learners' responses to the reading texts must be submitted in written form to the teachers through email. The e-learning artefacts, i.e., lesson materials and media, are stored in the computers, which are easily accessible by both learners and teachers.

E-learning mainly means electronic learning. In this process, teachers and learners use various resources to attain information and experiences. These include computers with internet networks, digital devices, gadgets, online newspapers, digital television, and digital radio. E-learning is also known as digital learning (Gupta & Gupta, 2020). The various technological tools must be an important part of creating the e-learning environment, which is integrated systematically with the other components. The e-learning environment consists of interrelated and integrated components focused on facilitating the attainment of the learners' needs.

The components include technology that facilitates the teaching and learning process involving learners, teachers, and e-learning materials. These components have to be designed systematically to create the e-learning environment that supports interaction and the learning process as well as autonomous learning. The interaction between these components forms a virtual learning environment that will connect learners with learning partners and will foster a positive learning environment (Chua et al., 2020).

To optimize the process, a holistic approach is needed, in which learners actively take roles in learning and interact with teachers, as well as to manage the organisation to apply heutagogy principles in the e-learning program. Heutagogy principles, which are used as a theoretical basis in e-learning, focus on learners who are self-determined in their goals, methods, and process. The teacher and student must have concern in some heutagogical principles in the e-learning environment: (1) learning as an active and participatory process, (2) learning process is determined by the learners (3) learners are pro-active in every phase of learning, (4) learners can explore, manage, and give meaningful information, (5) learners collaborate with teacher, resources, and other learners, and (6) teachers and institution create a self-determined culture (Blaschke, 2016).

The Skype application has been used well to facilitate online interaction with learners. This application is also supported by other applications that support document sharing and assessment services. The choice of this application is based on its ease of use of this application. What needs to be done is to update the various applications that enable multimodal-based online interaction patterns. This innovation can be in the form of computer equipment, network systems, and various applications to explore the abundance of learning resources and the running of the e-learning management system. The innovation of technology in e-learning must continue to be pursued to improve the quality of the e-learning environment.

Adoption of new forms of technology is an important process in e-learning. With this adoption, uploading learning resources, materials, and assessment documents can be done smoothly and effectively. Various features can be utilized to facilitate and maintain interactions between learners and with teachers. Devices that support web-based systems will facilitate uploading and accessing content available to users anytime and anywhere (Coman et al., 2020). In this case, various types and patterns of e-learning are developed with the support of new technologies.

Through these various technologies, institutions can hold TIFL courses individually or in groups according to their needs in the form of virtual classes that are designed as face-to-face classes and allow the process of understanding and receiving information to be carried out through simulated activities, learning games, mobile learning, and two-way interaction. In this process, these various technologies can facilitate the distribution of various documents and materials needed in the learning process.

With the above considerations, new forms of technology need to be evaluated, explored, and experimented with again, so that the novelty of technology can enhance language competence and enable learners to interact and collaborate through various forms of technology globally (Ehlers & Hilera, 2012; Phillips, McNaught, & Kennedy, 2012). The technology used in the TIFL e-learning program can be further developed by utilizing Open Educational Resources (OERs). These ORSs are in the form of technological devices that contain various types of

teaching and learning materials that can be accessed free of charge. Learners and teachers can use these resources, copy and share them legally to facilitate the TIFL e-learning. In addition, they can access a variety of learning resources to develop themselves. The learning resources include: course materials, modules, textbooks, lecture notes, exercises, software, videos, audio files, and animations.

Related to e-learning artifacts, the institution continues to strive for new forms so that the TIFL learning process can approach the real process in utilizing language skills. Existing e-learning artifacts are still limited in improving language competence. Existing e-learning artifacts can only facilitate interactions for certain language skills and have not been able to explore diverse learning tasks. This is necessary because various schools and institutions abroad request that the e-learning process be conducted in a classroom format. E-learning artifacts can be one of the interactive learning systems, digital learning devices/equipment, and technological learning objects that have different characteristics. These three forms can be developed in an e-learning program to provide a variety of language learning experiences. Thus, learners will be freer in choosing forms of interaction and actively involved in various learning environments in completing learning tasks. Learners can demonstrate learning achievement consistent with studies conducted by Phillips, McNaught, and Kennedy (2012), Crabbe, Elgort, and Gu (2013), and Andreicheva and Latypov (2015).

The e-learning environment design is developed by the teachers and the IT staff based on the instantaneous needs of the learners, so that it is not integrated and planned systematically by the curriculum design developed by the R&D team. The e-learning design development is still temporary to adjust to the problems that arise in the learning process. A programmatic review of this design has not been done optimally. The ideal e-learning environment should be designed according to the needs and work context of the learner. Thus, the expected learning outcomes can be realized effectively. The e-learning environment is also determined by the differentiation of content, processes, learning resources, meaningful learning tasks, and competent teachers who all support and facilitate the learning process carried out by the learner. Objectives, diversity of assessments, choice of instructional design, complexity of learning experiences, and last but not least, the active role of learners in utilizing the learning environment are also key factors that must be considered.

To improve the quality of the electronic learning environment, it is necessary to design an Integrated Virtual Learning Environments (IVLEs). IVLEs is an electronic learning environment management system that combines or integrates constructivist learning principles in a web-based learning environment, e-pedagogy principles, and human-computer interaction. This system is directed at increasing the learners' learning independence and the achievement of communicative competence in TIFL learning. Through this model, the TIFL learners and teachers are immersed in the IT-based learning environment since the start of the program because it has been designed and integrated into the development and implementation of the curriculum. The objectives, materials, methods, and evaluations are designed by integrating information technology into it.

The heutagogy principles also become the basis for the implementation of TIFL electronic learning. Learners can determine the goals, methods, and learning process according to their needs and characteristics. Various options of technology

are included to facilitate the learning process. Teachers and learners interact in an interactive and consultative atmosphere by utilizing IT tools to improve their communicative competence. Teachers and learners are also actively involved in the use of computers in the learning process without leaving the human aspects out.

The three main components of this model- learners, teachers, and computer/internet technology-based resources interact functionally in creating an effective TIFL learning environment. TIFL learners can construct language knowledge, skills, and attitudes independently with the help of an IT system while still receiving attention and assistance from the teachers who function as facilitators in virtual interactions.

The use of various forms of new technology will have an impact on the development of digital competence in BIPA learning as stated by Biletska (2021) that digital competence in language learning includes linguistic abilities, digital skills in computers, multimodal utilization skills, and communication skills.

The limited and less than comprehensive information garnered from the needs assessment prevents the learning process from being optimal in terms of a sense of presence, which, by all means, is the core of an e-learning system. The interface design models are too limited to explore the various linguistic activities to match the learners' diverse learning styles and strategies. This can be overcome by providing various programs or applications to be implemented in the e-learning system, which enable the learners to communicate face-to-face with the teachers. In addition, these programs and applications should be accessed by learners independently to improve their linguistic competence.

The institution's strategic vision in the Indonesian language education and training is to internationalize the teaching of Indonesian as a foreign language through e-learning technology. This is a solid stepping stone for planning and implementation of a TIFL e-learning program, as well as a term of reference for the provision of curriculum and instructional materials in the context of creating a conducive e-learning environment.

In terms of developing an e-learning environment, the institution has adapted the new technology in the implementation of the TIFL learning program. The utilization of new technology to implement e-learning is carried out through the Skype program and its various supporting features. Due to its easy access both for learners and teachers, the program is utilized because it offers various facilities for diverse language learning activities, and provides available updated programs to enable learners and teachers to be updated to the latest technological development. The novelty in technology is inevitable in the implementation of e-learning programs. The novelty includes the equipment being used, the systems and software used to explore learning sources, and the e-learning management system. The evaluation of the novelty in e-learning technology should be done to see the benefits of the available technology and the new potentials of the technology to be used to improve the quality of the e-learning environment, learners' digital competence, enriching learning experiences that utilize various digital sources, and establishing digital collaboration in language activities (Ehlers & Hilera, 2012; Phillips, McNaught, & Kennedy, 2012).

New forms of technology used in e-learning enrich the learning artifacts produced by learners. This will also create an e-learning learning environment to enrich the learning experience of learners. An e-learning environment that

effectively connects learners with other learners, learners with learning resources, and optimizes the use of digital technology.

The utilization of various e-learning programs is corroborated by Ehler and Hilera, who state that e-learning programs must utilize various forms of technology to support the learning process. This technology will determine the quality and sustainability of the e-learning program.

About these e-learning artefacts, the institution is looking to find the most appropriate form of technology to create a real-life atmosphere and condition in the e-learning environment. The existing e-learning artefacts do not create a sense of presence optimally, which, by all means is the core of an e-learning program. The existing e-learning artefacts can only facilitate a limited number of individual learning interactions. It cannot facilitate group e-learning programs. This needs to be considered as there is an increasing demand from schools and institutions overseas to conduct e-learning classes for groups of learners.

E-learning artefacts refer to all forms of digital technology developed or used to facilitate the learning process. This form of digital technology can be in the form of multimedia devices, interactive media, and learning management systems that are specifically presented to create a more contextual learning environment and support the completion of learning tasks. Through these e-learning artefacts, language learners can interact and collaborate flexibly and more actively. The use of e-learning artefacts in foreign language learning is relevant to the study conducted by Andreicheva and Latypov (2015), Crabbe, Elgort and Gu (2013), Hellwig (2022), Phillips, McNaught, Kennedy (2012), and Satyarthi, Pandey, Singh, and Dubey (2021).

The internet utilization in foreign language learning is potential to improve the quality of learning in: a) the availability of authentic materials, b) the ability to communicate online, c) multimedia skill, and d) non-linear information structure. However, the learning program managers must anticipate potential flaws in the utilization of internet in language learning. Such weaknesses include: a) limited degree of interactivity and bandwidth, b) the layers of information structure and presentation in the internet that can confuse learners, c) minimum control over quality and accuracy of information on the internet, d) minimum empirical and theoretical studies showing the utilization of internet-based materials in language learning, particularly to improve the reading skill (Brandl, 2002).

To improve the effectiveness of internet utilization in foreign language learning, adequate technology and knowledge on learning design is necessary. Three important aspects that guide teachers and program designers of foreign language learning to maximize internet in language learning. First, teachers and program designers must design learning tasks that allow learners to exploit hypertext and hypermedia so that they may collaboratively incorporate various types of information into the knowledge they possess to generate new information and understanding constructively. Second, teachers and web designers may develop productive-interactive learning tasks by combining several language skills altogether. The learning tasks to develop reading skill must be followed by tasks to develop writing and speaking skills to allow learners to write and express what they see, observe, learn, and understand creatively in the form of argument, text, and visual representation. Third, the computer-based communication activities in foreign language learning must be oriented to concrete goals and experiences.

Therefore, learning tasks must be designed consistently using situational-contextual language learning principles. The language skill tasks will be meaningful when they can solve real problems in their daily language use. In addition to the availability of new technology and the function of e-learning artefacts, this program should be supported with e-learning environment design which integrates various inter-connected components. This design shows the functionality of each component to realize the learning goals (Averkieva & Kachalov, 2020; Bećirović, Brdarević-Čeljo, & Delić, 2021; Brandl, 2002).

Conclusion

There are several conclusions related to improving the e-learning environment in learning Indonesian for foreign speakers. Information related to the objectives and technological assets is extracted from the process of analyzing needs and optimizing existing forms of technology by always updating the program. New forms of technology and e-learning artifacts used in e-learning programs need to be integrated into an e-learning platform that is specifically developed according to the characteristics and potential of the institution so that the level of technological literacy of learners can be systematically increased. Schemes for utilizing new technologies need to be systematically pursued so that innovations in the field of technology can be immediately accommodated and adapted in the design of the BIPA program or curriculum.

To optimize the process and outcomes of learning Indonesian for foreign speakers, curriculum developers can consider the eight-dimensional framework of e-learning as modeled by Khan (2007) which includes: (1) institutional, (2) pedagogical, (3) technological, (4) interface design, (5) evaluation, (6) management, (7) resource support, and (8) ethics. These eight dimensions can be uniquely designed based on the characteristics of the institution and the needs of the learners. E-learning curriculum developers can design these eight dimensions integratively in an active, collaborative, and meaningful learning environment.

Evaluation of the development of e-learning artifacts and processes, as well as the functionality of the e-learning environment, shows that the e-learning program is a promising program but also a challenge because of the distance between teachers and learners which gives rise to problems of access to information, technological literacy gaps, distribution of materials and multimedia that is not smooth, and disrupted communication and interaction between teachers and learners. Along with the development of technology and the abundance of learning resources, institutions need to update the latest technological devices and software to deliver Indonesian language learning materials and media for foreign speakers. Through this continuously updated technology, teachers can facilitate learners with learning resources, materials, and learning media that are up to date and meaningful to them. To ensure the success and sustainability of the program, a comprehensive and thorough program evaluation is very important. The success of this curriculum is determined by all stakeholders involved. Beliefs, projections, and visions regarding language, learning, and the use of technology in learning will direct the implementation of a curriculum that is always adaptive, flexible, and meaningful.

The success rate of the e-learning program is shown by the positive response from stakeholders to this BIPA e-learning program. Of course, coordination

between parties, clarity of design, and increased interactivity in the learning process still need to be improved for the sustainability of this program.

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