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TEACHER ENGAGEMENT INTERVENTIONS THROUGH ITEI APPS

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Teacher Engagement Interventions through ITEI Apps (Conference Paper)

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Abstract

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ITEI Apps is an android based application developed for being able to map the condition of teacher engagement through the concept of self-diagnostic. Self-diagnostic is done from the self-assessment stage to obtain profiling of teachers on the condition of engagement. The next stage is to intervene on the results so that teachers can do the improvement program engagement independently. This research uses exploratory research method as one part of Neuroresearch method. Overall this research produced an application with intervention design that is beneficial for the teacher so that with correct improvement program individually impact to the teacher become more engaged with its profession and ultimately able to improve performance impacting to education quality nationally. © 2018 IEEE.

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Teacher Engagement Interventions through ITEI Apps

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Abstract- ITEI Apps is an android based application developed for being able to map the condition of teacher engagement through the concept of self-diagnostic. Self-diagnostic is done from the self-assessment stage to obtain profiling of teachers on the condition of engagement. The next stage is to intervene on the results so that teachers can do the improvement program engagement independently. This research uses exploratory research method as one part of Neuroresearch method. Overall this research produced an application with intervention design that is beneficial for the teacher so that with correct improvement program individually impact to the teacher become more engaged with its profession and ultimately able to improve performance impacting to education quality nationally.

Keywords—ITEI Apps, Neuroresearch

I. INTRODUCTION

The contributions of teachers to contemporary societies in this millennial era not only apply to students as individuals but also impact the nation's progress, as teachers play an important role in the realization of quality education [1], [2]. So, the engagement of teachers to be one of the demands of tasks and professions that must be met because it can help improve performance optimally [3] - [5].

The millennial era marked by rapid technological development becomes one of the reasons for the need for an innovation in the education world [6]. The Indonesian Teacher Engagement Index (ITEI) Apps is an android based application that teachers can use to self-assess the conditions of their engagement [7] [8]. The ITEI application on Android is chosen with consideration of the rapid development of Android apps that tend to be easy to develop and easy to use [9], [10].

ITEI Apps teachers use independently to see the conditions of engagement on their duties and responsibilities to obtain a picture of how the ability of teachers to interpret life as a professional educator, the ability of teachers to foster positive skills to students and the environment, the ability of teachers to produce high performance, national character which the teacher possesses, the ability of the teacher to position himself

that although as a teacher in a particular location, but in the teacher is firmly attached to prioritize its influence to the national interest, and the basic competencies of the teacher are (a) pedagogic competence, (b) personality competence, (c) social competence, and (d) professional competence [7], [8], [11] - [15].

ITEI Apps is not enough just to provide an overview of the conditions experienced by teachers, but ITEI Apps also provides suggestions for intervention programs that must be done automatically when the teacher completes self-assessment. This concept adopts a medical tool that usually implements self-assessment and intervention for patients so that patients are helped to monitor programs to be done [16], [17].

Implementing a self-intervention program in the education field is not easy, especially in view of the impact that will be generated [18]. So, the design of the ITEI Apps intervention is made in such a way that it can be a sustainable application for teachers to continuously measure and improve their engagement.

II. LITERATURE REVIEW

A. Self Assessment

Self-assessment is an appropriate way to help improve teacher performance and provide the path of effective change agents [19]. Teachers can better identify themselves and improve better performance practices independently. Teachers who engage in their profession are the main objectives of ITEI Apps development, so ITEI Apps needs to be accompanied by an intervention design that can provide ongoing support and evaluation for teachers. This continuous process will increase the impact of ITEI Apps.

B. Design Strategies

According to ref. [20] Current mobile applications have advantages in usability, maintainability, extensibility, device diversity, portability, faster time to market. It becomes something that is important in making this application which passes through the phases of making wireframe design

(sketches), prototype, visual design, information architecture and navigation model, as well as personalization and contextual feature (see fig.1).

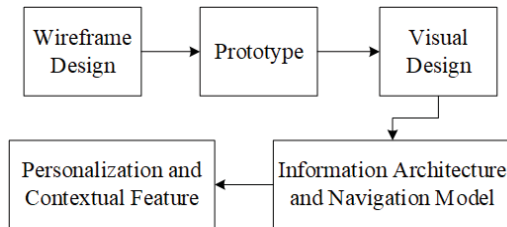


Fig. 1. Design Strategies Phase

C. ITEI Apps

ITEI Apps as an android based app using basic self-diagnostic concepts. Teachers in different regions of Indonesia who have mobile smartphones can easily download this app already available in the play store for free.

ITEI Apps based on client-server. Teachers as clients provide input from the questionnaire that appears in the application. The input results will go into the server, managed and generate profiles according to the input given [7]. Biodata filled in ITEI Apps include:

- Territory, the user can select the domicile area of the school from the data already provided on the application in the form of drop down.
- Province, the user can choose the province of school domicile from the data already provided on the application in the form of drop down.
- Regencies / Municipalities, users can choose the district/city of school domicile from the data already provided on the application in the form of drop down.
- School Name, the user can select the school from the data provided in the application in the form of a drop down.
- Gender, the user can select the female or male gender that has been provided on the application in the form of drop down.
- Age, the user must self-fill in the current user's age (in years) integer.
- Educational Background, users can choose educational background in accordance with the data already provided on the application in the form of drop down.
- Duration of Teaching, the user must fill out the teaching time that has been done in the form of year.
- Certification, the user can choose the status of certification in accordance with the data already provided on the application in the form of drop down.
- Teacher type, the user can choose the type of teacher type status according to the data already provided on the application in the form of drop down.
- Level of School, the user can choose the school level where the current teaching in accordance with the data already provided on the application in the form of drop down.

- Employment status, the user may be the current employment status of the teacher in accordance with the data already provided on the application in the form of a drop down.
- NUPTK, the user can select the NUPTK status type according to the data already provided in the application in the form of drop down.

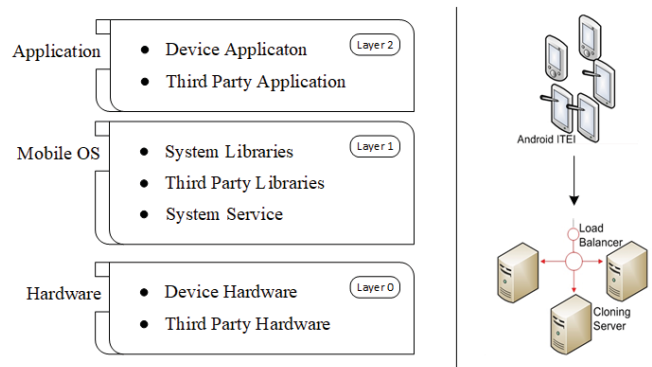


Fig. 2. Architecture ITEI Apps Client Server

In its development, not only the profile of teacher engagement will appear in this application, but also some additional tips that will be used as an intervention program.

Within a period of 6 (six) months the teacher will conduct re-monitoring through ITEI Apps to see the effectiveness of the intervention program provided.

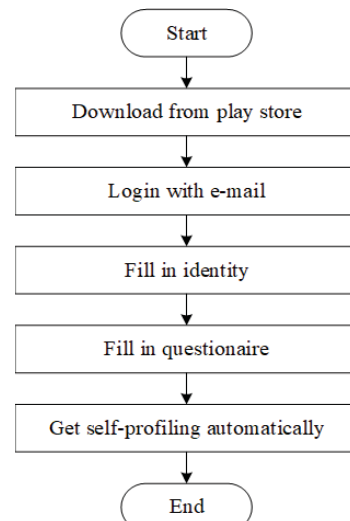


Fig. 3. ITEI Apps Process

III. RESEARCH METHOD

This study uses exploratory research as a part of the Neuroresearch method [21], [22], in which researchers explore various literature to produce an application model capable of providing direct intervention for users. Exploratory is done not only limited to the literature review of the instruments used

but related to how the application can be used effectively and efficiently to provide significant benefits and added value for teachers in improving teacher engagement, in order for that to happen, the knowledge of an expert is transferred into ITEI Apps [23].

IV. RESULT AND DISCUSSION

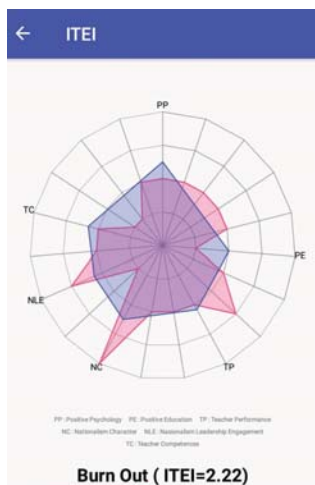


Fig. 4. Examples of Profiling Results In The Application

The use of ITEI Apps preceded by the filling stage of the questionnaire will result in 7 types of profiling where profiling appears only in accordance with inputs performed by teachers. Views this profiling results based on the index that has been set in the application [24].

From the results of this profiling will result in several intervention programs that must be done by teachers consistently and ITEI Apps also prepare a feature to help teachers to monitor the program.

ITEI Apps will be accompanied by several design strategies [25]:

- Personalization: the user is asked to choose an intervention program appropriate to each condition to keep the condition for the user to feel comfortable in the intervention program. The intervention program to be selected has been adjusted to the highest level of need considered most capable of significantly improving the engagement condition.
- Interactive exercises: users will get the help of monitoring tools that must be updated in accordance with the progress of the program. Users will periodically perform the program to fill out the monitoring tools related to the program type, the start time of implementation, the expiration time of the program and some activity list from the program.
- Guidance: the user will get a guide in the form of the module to help run program easily. the module contains the description of the program objectives, targets to be achieved, the time required to complete the module along with the technical implementation of the program in detail.

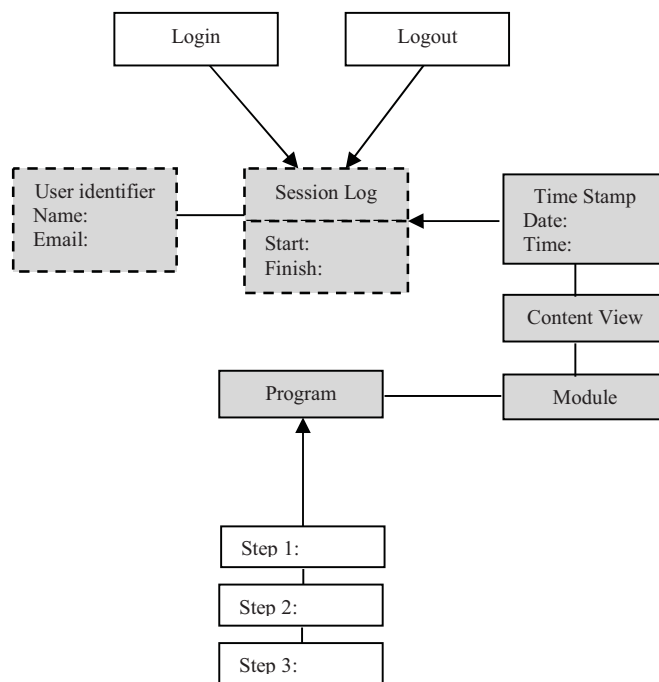


Fig. 5. Intervention program through ITEI Apps

The teacher intervention program will be measured six months later where the teacher will self-assess again through ITEI Apps. The intervention program is considered successful when a change of engagement condition from the previous assessment results is made.

ITEI Apps will provide a feature that is able to show user history when accessing this app. Teachers can see the development of self-profile from time to time. On this page also shows the rest of the time when the user can perform a re-filling questionnaire.

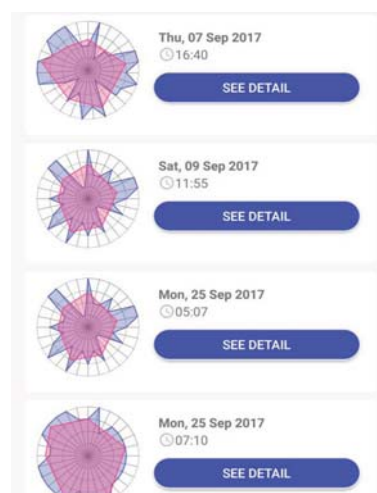


Fig. 6. History of using ITEI Apps

V. CONCLUSION

ITEI Apps is an innovation that is presented to answer the needs of education in Indonesia today by collaborating the concept of engagement applied through Android-based applications as one of the current technology trends. By leveraging technological developments, ITEI Apps can make it easier for teachers to know the conditions of engagement within themselves, undertake programs in accordance with recommended intervention programs and re-diagnose the effectiveness of sustainable program outcomes.

ACKNOWLEDGMENT

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