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Developing an Online Pre-service Student Teaching System Using ADDIE Approach in a Middle Eastern University

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***Abstract*—In this study, an analysis was conducted in order to seek an improvement of a current working student teaching system in a Middle Eastern country university using the instructional design approach ADDIE (Analysis, Design, Development, Implementation and Evaluation) to indicate the need for an online-based system to manage the teacher preparation program in student teaching. The study sample involved twenty-five individuals from college supervisors, cooperating teachers and student teachers who took part in student teaching programs during Fall 2015. Focused group discussion, field notes, document analysis were the main tools used to analyze the status-qua of the system for the need to construct a new instruction. Results revealed several themes in the system based on three phases from the analysis phase of ADDIE approach. Future implications include utilization of current data to complete the next phases of the construction of an effective online system of managing student teaching.**

***Index Terms*—ADDIE, analysis phase, Blue Ribbon Report, instructional design, systems approach, technology**

I. Introduction

Instructional designers carry out thorough analysis to develop new courses and instructions in their fields. This takes time to choose the best method or approach to design new instructions. But one of the best approaches to design instructions is the use of ADDIE approach. The ADDIE, an abbreviation of Analysis, Design, Development, Implementation and Evaluation, is a system approach that is used to serve like a managing structure for complex settings as well as a roadmap for the whole instructional design (Branch, 2010; Martin, 2011). It is considered as the most common development process (El-ghalayini & El-khalili, 2012) and a way to connect stakeholders for communicating concepts and thinking (Branch, 2010) in a flexible manner to solve an issue related to instructional drawbacks (Allen, 2006). There is an increase use of ADDIE in designing online blended courses (El-ghalayini & El-khalili, 2012) and web-based distance learning instructions (Evans & Lockee, 2008). Thus, integrating technology in designing instruction requires careful analysis of the situation where instruction takes place and ADDIE instructional design has a flexibility that allows for assessing the use of technology.

ADDIE Model in teacher education

Recent literature shows increased projects in teacher education to using ADDIE model (Evans & Lockee, 2008; Shibley, Amaral, Shark & Shibley, 2011; Nadiyah & Faaizah, 2015; Navarro, Zervas, Gesa, & Sampson, 2016). Several reasons led to this widespread trend in education. A central feature underlying ADDIE model is being a flexible framework that went through a rigorous development process by instructional designers (Nadiyah & Faaizah, 2015; El-ghalayini & El-khalili, 2012; Allen, 2006) for developing efficient educational products and supporting tools (Branch, 2010; Nadiyah & Faaizah, 2015). It provides more freedom, authority to design, develop, and implement instruction to meet job requirements with latest technologies, knowledge and proficiency (Allen, 2006). Conventionally, Branch (2010) asserted that ADDIE's phases adopts input, process and output model where it is developed under guided learning series that verifies and strengthens products and procedures in an evaluative process. As a step in ADDIE, analysis phase purpose is to define the performance gap and the first step is to carry out an assessment of the performance, and it helps identifying educational problems, define participants' characteristics, existing skills and knowledge (Navarro, Zervas, Gesa, & Sampson, 2016). In assessing the performance, Branch (2010) emphasized three main steps to be carried out such as measuring real performance, confirming the desired performance and finally identifying the causes for the performance break. Hence, ADDIE provides a systematic analysis and procedures for developing existing system's performance because it deals with problems related to any system malfunctions.

Technology integration in preparing teachers

Researchers stressed technology integration into instruction (Lisowski, Lisowski & Nicolia, 2007). Technology has become an important part of education and the need for its use has increased in various fields (NCATE, 2010; Cunningham & Stewart, 2003; Motallebzadeh, 2005; Lumpkin, 2012) for several reasons. First of all, it enhances active and collaborative learning of difficult tasks and skills that students need at school (Lisowski, Lisowski& Nicolia, 2006) where students are involved in learning through technology use (Bellance &Brandt, 2010). It also fosters collaborative professional development and it involves significant parts such as relationships, expectations, incentives and reinforcement (Wepner, Bowes & Serotkin, 2007). Thus, collaboration functions as one of the most important parts of technology use (Blackwell & Yost, 2013; NCATE, 2010). For instance, increased virtual communities among teachers and students due to increased online courses has made internet as a need for today's 21st century classrooms (Bellance & Brandt, 2010). Above all, collaboration, communication and learning communities are based on the best practices of technology use in education either by students or teachers.

With respect to the requirements of the universities and schools to integrate technology and develop teacher education, there is considerable weak integration of technology to manage overall teacher preparation system. Institutions utilized technology either for learning or for assessment of learning. In the case of this Middle East gulf university, the technology-based instruction such as moodle, online courses and the use of different web-based learning tools were used for the sake of preparing the students for their learning. The other type of technology integration into the system was the use of online web tool for assessment such as LiveText. The university has been accredited by the NCATE and had already utilized LiveText as accreditation management tool for assessing students' performance. This role for the assessment system did not provide space for dialogue, interaction, learning, collaboration or information exchange. In this study, the researchers analysed the system function and called for the need to the construction of an online-based system to solve the problems related to the followings: marks submission delay to university supervisors by cooperating teachers, difficulty to daily record candidates' attendance, candidate placement at a particular school, and feedback communication to candidates, and problems in the current electronic evaluation system (i.e., LiveText) in marks delay.

Adapting ADDIE model would create an opportunity for teacher preparation programs to define major causes of problems during student teaching courses and evaluate the real performance compared to the preferred performance using ADDIE processes. Though ADDIE model creates an effective approach to develop systems, it lacks specific steps to be followed by all stakeholders. For instance, several institutions follow different methods to achieve the phases due to freedom of authority within the ADDIE design. To add more, ADDIE model does not tell how to divide major goals into practicable objectives. Thus, analysis and careful plans should be followed in order to achieve the preferred outcome of the overall development process. Branch (2010) explained that in order to identify performance gap thoroughly, one must clearly understands ADDIE approach. Therefore, the researchers adapted Branch's procedures to carry out ADDIE model so as to develop the new required system for student teaching in the college of education. However, the researchers focused on analysis phase only for several reasons. To begin with, the analysis phase includes procedures not only identifying performance breaks but also determining instructional aims, analysing learners' prerequisites, examining available resources, estimating costs and finally composing a project management plan (Branch, 2010). Since the researchers' goal is to construct an online management system for student teaching program, they focused on identifying the performance breaks as a first step to analyse the reasons behind the inefficiency of the current system and performance downsides. Therefore, the study will focus only on ADDIE's analysis phase. The analysis phase should be conducted thoroughly because it determines whether constructing the instructional online-system would close the performance gap and fulfil the need to develop the current system or not. Moreover, student teaching system consists of several groups of individuals who play significant roles during the student teaching course that inevitably require them to collaborate but may not transpire in reality.

II. Method

Study overview

In this study, the design was embedded around the steps of the analysis phase in ADDIE approach. The first step to carry out assessment performance was by getting information about the real performance. According to Branch (2010), the best methods to measure actual performance are through observation, testing, and interviews. In this study the researchers selected focus group as the main method to measure the real performance of the systems' function. The researchers involved three groups of individuals in one focus group discussion (cooperating teachers, college supervisors and candidates) rather than having three different focus groups for several reasons. One important reason was for having more variability of viewpoints. The researchers strongly believe that the interaction between individuals in a single focus group would make the data wealthier and get each group of stakeholder to understand the others voices based on questions asked. The second reason was for the familiarity of each agent's type with the others, which was expected to play an important role in articulating their views when answering the focused group questions. The last reason was to save time rather than duplicating the event with each agent type separately. According to Nieswiadomy (2012), the focus group is a time-saver compared to individual interviews. This perhaps creates opportunity for the researchers gain more information in a short time about each partner.

Another method to collect information was field notes. According to Sekaran (2003), taking notes is important. He insists that relying on memory could lead to imprecise and incorrect information. For this reason, the researchers managed to take field notes while they mediated the discussion.

The next step in the analysis phase was the confirmation of preferred performance. Branch (2010) asserted that this step could be achieved by collecting data using several methods such as observations, tests, standards, reports, interviews and experts in the field. In order to achieve this step, the researchers analysed and collected data from available documents such as FEST Handbook, Letter of understanding, and the detailed student teaching course description. The reason to use all these documents was due to the reason that they embedded main steps and descriptions of the required tasks from the three partners (college supervisors, student teachers and cooperating teachers). Analysing program documents, guidelines, policies and course descriptions were considered as effective methods to start evaluating any teacher program (Tatto, Neophytou & Papanastasiou, 2012).

The last method for carrying on the analysis phase last step during assessment of performance i.e., causes for the performance breaks, was through categorizing previously gathered information from both actual performance and desired performance to identify the problems as seen from both sides. Branch emphasised that the causes for the performance gap fall into three categories: lack of knowledge, lack of resources, and lack of motivation. In this study, this step was done through the use of a sample of performance assessment chart by Branch (2010). It was adapted in this study to figure out the gap in between and categorize the problems found.

Participants

The researchers conducted a focused group discussion and used field notes. The focus group involved a total number of twenty-five individuals representing cooperating teachers, candidates, and university supervisors.

TABLE 2.
NUMBER OF THE FOCUS GROUP MEMBERS

Type	Number
College supervisors	4
Cooperating teachers	13
Candidate teachers	8
Total	25

As depicted in Table 2, the focused group involved eight candidate teachers who practiced student teaching at a number of partnered schools as resident teachers. In addition, four college supervisors and thirteen cooperating teachers worked as mentors of candidates to guide them during the whole student teaching course. The participants were selected randomly as all thirty participants during Fall 2015 were invited by email and eight of them attended the discussion. In the paper the terms college supervisors (CS), cooperating teachers (CT) and student teachers (ST) were used interchangeably as CS, CT and ST.

Procedures

There are three steps for the analysis phase to measure performance as described above, real performance measurement, preferred performance confirmation and identification of performance breaks. In each step different methods were used to complete the required task.

Step one: Measuring the actual performance

The researchers maintained the focus group for step one. The purpose and questions were outlined to the participants. Previously, the participants were given guidelines before answering the questions during focused group discussion to indicate their roles in the focus group. This was to ensure fair participation by all stakeholders. The discussion was audiotaped, transcribed and analysed.

The participants were informed of the research purpose and the nature of the focus group and were informed that the discussion will be recorded. However, for ethical considerations, the researchers informed the participants of the confidentiality of the discussion and information recorded is to be used for the purpose of the research project. In addition, names of the participants were treated anonymously in the findings.

Step Two: Confirm the Desired Performance

Getting sufficient information about the preferred performance was through analyzing the documents of the student teaching course in which all the required and desired outcomes were stated according to the systems' goals and objectives of the program. The conceptual framework (CF) document of the college was also analyzed to see how the student teaching documents are mapped in it in terms of the competencies delineated in the CF. Tatto, Neophytou & Papanastasiou (2012), state that documents of teacher programs are the basis on which all activities and important decisions of programs are built upon and added that they could be shared with student teachers, cooperating teachers and college supervisors. Thus, the researchers analyzed the documents based on the similar themes that formed the focused group discussion questions. This was to compare the actual performance and the desired outcomes. The documents analyzed included Handbook of Field Experiences and Student Teaching (FEST), Field Experiences and Student Teaching Letter of Understanding (LoU) between College of Education (CoE) and Ministry of Education (MoE), and the college's CF. The LoU included the same written criteria and the responsibilities of the cooperating teachers and candidates as in the FEST handbook. With respect to the World Data on Education (UNESCO, 2010-2011) and World Bank (2013) report on the Drive for the Quality of this country, where the project was carried out, the

relationship between both CoE and MoE was very close. They both share the authority for setting up, designing and implementing the educational policies in the country. Thus, the documents were analyzed and later on compared to participants' response about the themes.

Step three: Identify the Causes for the Performance Gap

The third step in analysis phase for validating performance gap helped identify the primary cause of the gap through categorizing the input from focused group discussion, field notes and documents analysis. Branch (2010) established a format of table that was used to compare both actual performance and desired performance. Accordingly, the researchers adapted the same sample as an example to present the main disparity in the performance of the three stakeholders during student teaching course and categorized the problems occurred within the three categories of the last step in identifying the causes for the performance gap.

Data analysis

To analyze the data gathered, the researchers audiotaped the focus group debate and analyzed the transcripts of the audiotaped material. Then, they categorized them into themes for both focus group discussion and document analysis. Both analyses were compared under each particular theme.

III. Results and Discussions

The findings of the study are presented in terms of the five themes. The following themes revealed from the steps in the analysis phase of ADDIE approach:

- Relationships
- Roles and responsibilities
- Planning and teaching
- Selection criteria
- Assessment and evaluation

The view of several participants was provided to see how each participant (college supervisor, cooperating teachers and student teacher) viewed the terms and issues related to the topic discussed. The first part of each theme demonstrated the first step of analysis i.e., measuring real performance from focus group discussion and field notes. The second part of the theme demonstrated the second step in analysis phase of ADDIE i.e., confirming the desired performance.

Relationships

The participants reviewed their relationships from own perspectives and from their interactions during student teaching. To begin with, the results of the rapport between cooperating teachers (CT) and student teachers (ST), as indicated, was very strong due to the daily contact and communication they had with the STs in the school.

From an ST view:

"The relationship between student teacher and cooperating teacher is very close, because the cooperating teacher continuously offers help in every aspect. For instance, lesson planning, homework and follow up".

Another ST asserted: "Our relationship with the college supervisor was very strong too. The supervisor provided us with three communication channels such as e-mails, personal mobile number and a Facebook group to discuss various educational topics. In fact, the relationship between us and both college supervisors and cooperating teachers was quite strong".

The CT interaction indicated how the relationships were important and that it did change their attitude in student teaching.

A CT stated: "…the relationship with the candidate teacher was quite robust than previous years. The candidate is like my shadow, following me everything".

The relationship between the college supervisor (CS) and CT was very weak which could be attributed to the infrequent school visitations conducted by the supervisor. There was also mixed reactions about the meetings held between supervisors and teachers during these visits. Some teachers indicated that supervisors do discuss major-related issues about the mutual candidate they mentor whereas some others stated they were barely invited by the supervisors to discuss such issues.

A CT stated: "Of course, the relationships between cooperating teachers and college supervisors were rare and hardly observed…".

From college supervisors view of the relationship between the stakeholders, they wanted that CTs be updated and learn the recent trends in education.

A CS stated that: "There should be a strong cooperation between college supervisors and cooperating teachers so as to know the recent changes that occur during student teaching".

It was clear that there was a problem in the interaction and collaboration between the CTs and CSs. They wanted the communication to become more robust than it was. For instance, from the results found in the group discussion, CTs were confused during week one as stated by the STs. This confusion resulted because of an existing weak relationship between CTs and CSs, thus, insufficient communication of information lead to this confusion. As a step to be continued in ADDIE phase, there is a gap in performance related to lack of communication.

Based on documents analyses, the relationship between all stakeholders (CT, CS & ST) should be strong. It was emphasized that ST and CT should establish a positive relationship between each other. According to the document Field Experiences and Student teaching, CTs should indicate that they:

"Are willing to establish a positive respectful professional relationship with the student (s) assigned to them" (FEST, 2013).

Similarly, STs are encouraged to: "Establish a good respectful professional relationship with the cooperating teachers supervising them" (FEST, 2013).

From the above findings of the documents, the emphasis towards the communication and collaboration between the CTs and CSs was not clearly specified.

Roles and Responsibilities

The roles of both College of Education (CoE) and Ministry of Education (MoE) are provided first and then individual stakeholders roles are followed. According to the three partners' responses, they indicated that the CoE did achieve its responsibilities during student teaching in general such as facilitating student teaching process, communicating with the stakeholders for the easiness of the program in school settings, providing the partners with sufficient information about the job tasks and responsibilities during students teaching program. From the focus group discussion, A CS indicated that student teaching was revamped in several aspects one of which is the use of different communication tools that made the partnered schools react positively to the workshops conducted. In contrast, candidate teachers complained about confusions in the first week as they had no idea about how to approach student teaching in the school. They claimed that teachers had no idea about the course prior the orientation workshops took place. On the other hand, college supervisors praised the role of the partnered schools to hire candidates after graduation in their schools.

When it came to the (MoE), it was more complex. The roles and responsibilities of the ministry depended on the tasks the College of Education (CoE) required from the STs and CTs to accomplish. However, one of the major shortcomings was lack of resources. A ST said that lack of resources remained a problem to them, especially during physical education classes. They didn't have a playground for the lesson. College tutors have a similar complaint about the roles and responsibilities but that was regarding private schools responsibilities for attendance to workshops.

A CS stated: "we suggest that the (MoE) solve the problem of private schools in not attending the orientation and LiveText workshops conducted by the college, and there should be a representative from MoE".

College supervisors seem more concerned about MoE's responsibility to select a representative who could manage the communication between all stakeholders in the ministry and the CoE.

With respect to individuals' roles and responsibilities, the context was different. From the field notes and group discussion, there was a problem regarding some tasks and duties that the CTs should achieve during student teaching courses. An ST indicated that CTs were confused during the first week about what to do and what to give or how to guide the STs although these are clearly stated in the student teaching handbook, which was shared electronically, and in hard copies with all cooperating school from the first week of the semester. On the contrary, a CT claimed that the tasks and duties were clear but the problem was that nobody told them about some responsibilities till the end of the semester.

Arguing about the duties, an ST confessed that reading the handbook was boring and took longer time, a good statement about it was:

"I cannot read the whole document paper by paper".

This made the job of the CTs quite difficult because this creates a fragile image of the ST by expressing low motivation. They should read the handbook because it provides detailed description of each partner's tasks and duties. Another complaint stated by CTs was about the use of preparation books used at MoE to prepare daily lesson plans. A CT said:

"The student teacher whom I have supervised did not use the preparation book that we normally use at schools to prepare our lessons. She kept using another online form that is provided by the college supervisor and we have no idea about it. Therefore, I was not able to track her planning performance and check whether she was using the correct method to write lesson plans".

The CTs complaint was disappointing and pointed that there should be a system that would allow both partners track daily works from both CTs and CSs. This was an important response calling for the need of a specific online system that would solve the current issues in the student teaching course and help in managing it given the diverse and complicated roles that all stakeholders play in this full-time intensive experience.

During the focus group discussion, another response statement about the construction of an online management system suggested by a CS:

"Why don't we have a program that manages the whole preparation system to follow up student teachers, evaluate them, and bring all the stakeholders together".

There were several roles and responsibilities that both institutions (college and schools) should achieve during student teaching. However, this was confirmed through the agreement signed by both CoE and MoE (Letter of Understanding). Every party had its own roles, responsibilities including cooperating teachers and student teachers. In addition, in the Handbook of Field Experience and Student Teaching, all the triad (college supervisor, cooperating teacher and student teachers) must have a copy of this document so as to know and understand their roles and

responsibilities. Here is a table that provides some examples of the roles and responsibilities as mentioned in the FEST handbook for the three partners:

TABLE 3.
ROLES AND RESPONSIBILITIES DURING STUDENT TEACHING COURSE

Student teachers	Cooperating teachers	College supervisors
• Planning teaching • Searching for new knowledge and techniques for teaching • Providing feedback to school students	• Supervising student teachers in the partnered schools. • Provide daily oral feedback to student teachers • Conducting regular discussion sessions with the student teachers	• Visiting student teachers weekly • Discussing lesson plans with the student teachers • Coordinating with the cooperating teachers about the preparation of the lessons.

Planning and teaching

The third theme represented by planning of the student teaching and teaching process during student teaching course by all stakeholders. The responses indicated that the student teachers acted by resembling cooperating teachers in all areas at the school. Although there were specific phases in which STs should follow during their teaching practice i.e. gradual teaching from part to whole class teaching, cooperating teachers gave the whole class into STs' hands.

A CT said: "I treat the ST as a real teacher and I ask the ST to teach the lesson completely. In addition to that, I give feedback after the lesson".

This was as noted by the teachers would give more respect to the STs in the classroom. Nguyen (2009) asserted that both CSs and CTs in the school share responsibilities and partnership and it is better to introduce STs as teachers to gain some levels of respect and authority to become successful teachers.

During planning process in student teaching different seminars are held 4 times monthly. The purposes of these seminars were to share experience, discuss achieved objectives, tasks and requirements of student teaching, paying attention to strengths and weaknesses, and finding best instructional practices for learning purposes. The student teachers complained about seminars that were established for discussions and expertise exchange.

They stated: "The time is wasted in the seminar to solve STs' problems rather than exchanging experience".

They suggested that the time of the seminars should be restricted to exchange and discuss about class methodologies and new ideas rather than spending the time in STs' complaints about other school issues, although such seminars were important for STs to get strategic feedback from their CS.

From Document analyses, planning process is a fundamental element during student teaching for all the three stakeholders. For instance, college supervisors followed several steps as part of the planning stage.

It is stated that CSs should "discuss the planning of units and lessons which are provided by university and the ones which are applied in schools and to accommodate between the two" (FEST, 2013).

However, CTs should involve STs in the planning process while preparing for semester tests. In addition, CTs should be collaborating with the CSs in planning, applying and assessing the learning subjects (FEST, 2013). But what is seen in the real context is not the same as mentioned in the documents. CTs and CSs do not usually meet together to discuss the planning of student teaching program. One reason perhaps could be the timing of the college's program and courses are not started at the same time when schools start. Another reason could be attributed to the overwhelming workloads over the CTs that prevent them from meeting CSs such as school timetable schedules, teaching classes, limited time between actual classes and substitution classes.

Selection Criteria

There are certain selection criteria for the stakeholders and based on the focus group discussions, the findings revealed that their views about the selection criteria seem very limited. For instance, the school principals are supposed to chose the CTs for the STs supervision, but CTs seem that they have no idea about the selection criteria and how they were chosen to serve as cooperating teachers.

The cooperating teachers thought that the selection is restricted to CTs who have their classes at the beginning of the day till the time when STs have to leave the school earlier than normal schools schedule. A good statement for this when a CT stated:

"we are selected according to our timetable availability. It means when a teacher has her classes before the time when student teachers are supposed to leave school earlier".

STs argued that they want to select the schools they want to practice their student teaching in them regardless of random placement to schools.

One ST said: "We should choose our schools to practice".

But CTs had another point of view regarding STs placements at the partnered schools. They emphasized that STs should be prepared very well for different work places.

One of the CTs' statements draws attention to that and said: "STs should be prepared to work in any school environment".

Based on the results, CTs argued that STs should be prepared to work independently in any school contexts without too many complaints. However, if STs were instructed from the beginning that they should be prepared to work in any environment they would have no complaints about school location and selection. Moreover, CSs should guide and instruct the STs to be prepared for every situation and every context.

According to documents, all the three stakeholders should understand how cooperating teachers are selected and on what particular basis. Although selection criteria of both cooperating teachers and candidate teachers were provided, college supervisors' selection criteria were not specified in the documents. There were selection criteria for cooperating teacher as indicated in the documents such as being approved by school principal, had teaching experience of more than 3 years, had a very good level of performance and taught different grade levels. The selection criteria of the candidates, which also make the conditions for registering the student teaching course, include, for instance, having completed all courses, and having a focused GPA of not less than 2.3 and not being on probation.

Assessment and evaluation

The last theme of the study considered assessment and evaluation process. According to stakeholders' responses, the CTs stated that they provided STs with appropriate daily feedback on classroom performances, teaching and daily practices. CTs indicated that their use of the current utilized evaluation online system (i.e. LiveText) was very limited to formative assessment and e-portfolios grading. They indicated that LiveText was restricted to rubric-based assessments in student teaching rather than continuous assessment. Generally, the triad (CTs, CSs & STs) confirmed that the program did not gather the three partners to communicate simultaneously during student teaching for the evaluation and assessment process.

A cooperating teacher states: "Our use to LiveText is very limited to the end of the semester and paper assessment is easy to fill." They wanted to use paper filling for evaluating STs instead of using the online system. The reason was because they complain about the limited use of the system for evaluation only.

An ST commented: "the LiveText program needs to be amended and to be developed to serve us in different ways and subjects". This indicated that the STs saw the need for a developed system that could manage the student teaching program more efficiently and effectively in learning, assessing and managing the whole program at the same time.

Overall document analyses confirmed that assessment was a very important element in student teaching. First of all, workshops were conducted to explain the role of assessment through the use of LiveText program. For instance, before student teaching started, the FEST unit conducted workshops for both public and private school cooperating teachers on how to use LiveText and how to fill in rubrics and evaluation sheets. Candidates and college supervisors were also given similar workshops on LiveText to equip them with the basic skills they needed to use the evaluation system.

The FEST handbook highlighted some requirements as a part of evaluation procedures:

- CTs should give daily feedback after teaching.
- CTs should evaluate candidate teachers portfolios based on CoE's rubrics.
- CTs and CSs collaborate together to write final report about the STs teaching performance.
- All stakeholders use LiveText as an evaluation tool.

From the findings, CTs and CSs complained about the use of the evaluation system i.e., LiveText and suggested that there should be another system that would combine, learning, evaluation and management of the whole student teaching program.

Causes for the performance breaks/gaps

The final step of the analysis phase was to define the causes for the performance gaps. This step combined results both from step one i.e. actual/real performance and step two i.e. preferred performances. The following table shows the primary causes for the gap between the real and the preferred performance (adapted from Branch (2010), sample performance assessment chart in ADDIE's analysis phase):

TABLE 4.
A SAMPLE OF ACTUAL AND DESIRED PERFORMANCE DISPARITY BASED ON ADDIE ANALYSIS PHASE

Themes	Actual performance	Desired performance	Causes for performance gap
Relationships	-The relationship between CTs and CSs was very weak.	-Establish a good respectful relationship between the stakeholders.	-Lack of communication between CSs and CTs. -Lack of CTs knowledge about the recent changes in student teaching.
Roles and responsibilities	-STs stated that they couldn't perform the tasks	-STs should achieve all the requirements and tasks of the student teaching course as delineated in the course description	-Lack of resources such as playgrounds, make STs to stay back and do not achieve the tasks -Class timetable clashes prevent teachers doing the required tasks in physical activities.
Planning and teaching	-Future plans were needed to introduce CTs to all updated versions in evaluation tools and lesson plans.	-CTs should cooperate with the CSs for planning, implementing and evaluating the learning content.	- CTs and CSs do not collaborate and work together to plan or evaluate the teaching progress of the STs.
Selection criteria	-CTs have no idea how they have been selected	-Handbook distributed to all CTs includes selection criteria.	-Lack of motivation causes teachers not to be prepared as to grasp the required tasks and understand selection criteria.
Assessment and evaluation	-The participants indicated that their use to LiveText is very limited to the end of the semester for final assessments and evaluations.	-All stakeholders use LiveText as an assessment system.	-LiveText did not have the potential to gather the three stakeholders to communicate asynchronously.

* NOTE. The sample chart is adapted from Branch (2010) instructional design ADDIE approach, analysis phase

From the table, it illustrates how ADDIE analysis phase collects various types of data to indicate whether there should be a new system for student teaching program or not. Furthermore, as stated previously that CTs should be cooperating with the CSs for planning, implementing and evaluating the learning content but none of them cooperate or plan or even evaluate the learning content. Both lack means of communication. As a result, STs ended up being confused from performing the tasks requested either by CTs or tasks asked by CSs. Results found from the focused group discussion, STs did not use the same preparation book as used in schools but used the ones requested by CSs from the college.

The findings revealed that there was a need to construct and develop student teaching instruction as analysis phase implies. Since little work has been published on ADDIE approach in student teaching courses, the current study provided initial efforts and evidences to develop instruction based on the collected data. It is different from previous studies (Evans & Lockee, 2008; Shibley, Amaral, Shark & Shibley, 2011; Nadiyah & Faaizah, 2015; Navarro, Zervas, Gesa, & Sampson, 2016) because it carefully investigates ADDIE analysis initial phase.

In the end, several implications revealed from the themes. The first implication is related to the continuation of the ADDIE process because it claims that if there is no evidence of performance gap the process must be stopped. Therefore, the results revealed discrepancies in the student teaching system, for instance as an example, lack of communication and lack of knowledge about selection criteria shows the need for current system development. The second implication is to provide support for instructional designers to create a system that will manage the whole student teaching. For instance, the stakeholders suggested developing an online system. After analyzing the status using ADDIE's first phase, it would be very beneficial to form a committee of expert workers to continue the phases and develop a management plan to construct an online system for student teaching. The third implication is to invest the use of the current evaluation system i.e., LiveText to facilitate the construction of the new online system. A good attention should be given to stakeholders' view about the current system.

IV. CONCLUSION

This article describes a research project plan to develop an online management system based on ADDIE's first phase i.e. analysis phase. As discussed in the literature regarding the need of technology use in teacher preparation programs, the results of this show that there was a need to continue going through the next stages of developing a management program for student teaching. The three stakeholders' response and document analysis outcomes demonstrate the gap existence. Furthermore, the themes such as relationships, roles and responsibilities, planning and teaching, selection criteria and assessment and evaluation, in this study showed different sorts of problems that could be managed through the construction of online system from the perspectives of participants and the document analyses. Moreover further investigations are required for analyzing learners, examining available resources, estimating the costs and finally composing a project management plan to complete the analysis phase using ADDIE approach. Thus, this study opens the door to other researchers to continue investigating international and national contexts. The benefits of the current research project could, hopefully, be replicated in other research projects enduring teacher preparation transformation through systems approach disregarding the overwhelming tasks.

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