

## The Needs, Issues and Challenges in Implementing Instructional Design and Strategies in Higher Education Institutions

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### Abstract

Instructional strategies refer to the approach an instructor may take to achieve objectives and learning outcomes. The aim of this study is to identify the current training needs for Instructional Design and Strategies (IDS) in the context of the Malaysian Higher Education institutions. The objectives of the study are to identify: the lecturers' needs in respect of knowledge and skills to support their involvement in IDS; and the issues and challenges related to the implementation of IDS in higher education. This study employs a descriptive approach involving the use of a survey questionnaire to collect data. A total of 135 respondents participated in the study. They are university lecturers in institutions of higher learning in Malaysia, both public and private, from various disciplines and with varied experiences. A majority of the respondents perceived high level of awareness of the basic principles of course/lesson design. However, the level of involvement with IDS is limited by a lack of knowledge and practice. Hence, formal training of IDS is necessary for lecturers. Four main issues and challenges pertaining to the implementation of IDS in higher education were identified in this study. Recommendations were given in light of the problems emerged from the study.

**Keywords:** Instructional design and strategies; knowledge; Skills; Practice; Level of involvement.



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### 1. Introduction

Instructional design is a set of procedures to analyse, design, develop, implement and evaluate an instruction. Although instructional design (ID) is an important aspect in planning and conducting instruction, most academicians do not have the experience and training in ID. There are several issues and concerns related to ID and strategies, which include the procedures to analyse instruction, the type of media, method and strategies to be used in the lesson, the evaluation of the lesson and the assessment of students' performance. Such aspects are the basic elements in ID, and yet due to several reasons, many academicians do not receive such training. Therefore, lack of knowledge and skills in instructional design are said to be among the reasons why ID is not been applied among academicians in higher learning institutions.

Although there is an abundant of ID models, they differ in terms of their focuses, with some focusing on the classroom use, while others are product-based, or system-based approach (Gustafson and Branch, 2002). However, the Analysis, Design, Development, Implementation and Evaluation phases (commonly known as ADDIE) can be found in most of these models. Many academicians probably do not realize that they are doing some instructional design activities and applying one of these ID models – albeit in small scale - in their teaching sessions. For instance, prior to teaching, lecturers usually begin with the analysis phase in which the lesson or the problem to be solved

needs to be determined, and followed by the identification of the learning goal as well as learning outcomes. The task analysis involves the identification of the tasks and subtasks to be learned by their learners (Dick *et al.*, 2009). In addition, the lecturers usually know who their target audience are, and the context or environment where the instruction is to take place. In terms of the design phase, faculty members are using some types of media, method and delivery strategy in their lesson, as well as using the relevant assessment instrument. Prior to the implementation phase, the selection or development of the instruction is carried out (Dick *et al.*, 2009). Such activity includes a development of a simple slide presentation. Faculty members are the implementers themselves, thus, during the implementation phase, the instruction is ready to be delivered by them. In the evaluation phase, the students' performance will be assessed using the appropriate instrument for assessment which was developed earlier. In other words, academicians are usually involved in designing their instruction, although they probably are not aware of their ID practice. In addition, in the traditional university setting, at least in the Malaysian context, it is very rare to have instructional designers to assist faculty members, thus, leaving the latter to design the lesson on their own. Thus, a training in designing and developing an effective instruction is needed in our higher education institutions.

Even though there has been abundant research on instructional design practices and models, little is known about how academicians in higher institutions design their instructions (Goodyear, 2005). Even the findings of such studies are worrying. For instance, (Shrock, 1985) stated that instructional design was not accepted by a vast majority of faculty members due to concerns such as (a) ID is associated with another stress, (b) negative attitude toward ID and, (c) general principles and procedures of ID are often misunderstood. In addition, due to the many demands and responsibilities where priorities are generally placed on conducting research, publishing articles, teaching or advising students, there are limited opportunities for the time-consuming tasks of designing instructions. Moreover, studies by (Hoogveld *et al.*, 2002) found that instructors merely follow the syllabus and do not perform the needs analysis and evaluation activities.

Nevertheless, a study by Stes *et al.* (2010) revealed some effects of instructional design program offered to faculty members in a Belgium university on their teaching approaches. These effects include the role of the instructors to initiate interaction with students and as practical coaches. In addition, (Wolf, 2006) found that training for faculty members will be useful if they are trained using the delivery system with which they will be teaching, consistent institutional support is available, and if they are motivated to work in the environment.

In the context of this country, the uncertainty of whether faculty members in Malaysia perform a proper design related to their teaching activities is a matter of concern. This may lead to the need of proper training in instructional design among our academicians. In addition, to date, no studies that examine the practice of instructional design among faculty members in Malaysia have been reported.

## 1.1. Objectives

1. To identify the lecturers' needs in respect of knowledge and skills to support their involvement in IDS.
2. To look into the issues and challenges related to the implementation of IDS in higher education institutions.

## 2. Methodology

### 2.1. Research Design

This study employs a descriptive approach involving the use of an online survey questionnaire to collect data.

### 2.2. Respondents

The respondents of this study were lecturers in institutions of higher learning in Malaysia, both public and private, from various disciplines and with varied experiences. There were 135 university lecturers involved in this study. The details of the respondents categorized by the types of institutions are as the following:

*Table-1. Institution types of respondents*

Institution types	No. of respondents
Public	62 (46%)
Private	73 (54%)
Total	135 (100%)

### 2.3. Instrument and Procedure

All items of the questionnaires were adapted from previous studies (Hoogveld *et al.*, 2002); (Stes *et al.*, 2010); (Wolf, 2006) with the general aim to explore the current status of IDS knowledge and practice in institutions of higher education in Malaysia. In specific, the items assessed the support needed by the respondents, in respect of their IDS knowledge and skills, in order to enhance their involvement in IDS, as well as the issues or challenges the respondents confronted with during the implementation of IDS. The instrument was piloted prior to the study. Cronbach alpha values were between 0.75 and 0.96; hence are said to be reliable.

Respondents were requested to complete a set of questionnaires via online which consisted of three main sections. Section 1 required respondents to provide their personal information which include their name, gender, academic position, area of expertise, as well as the department and institution they are affiliated to. This section also included a question regarding respondents' previous experiences of conducting research on IDS. Respondents who had such experience were further asked to describe their IDS research experience in brief.

Section 2 of the questionnaire consisted of 12-item rating scale. Respondents were asked to rate each item on a 5-point Likert Scale (1 = *Neither agree nor disagree* to 5 = *Strongly agree*).

Section 3 consisted of 14 close-ended items which asked respondents to circle their responses of either “Yes” or “No”.

At the end of this third section were several open-ended qualitative questions requiring them to comment on their needs, problems and challenges related to IDS.

The sampling method used was random. The analysis involved the use of descriptive statistics and qualitative feedback.

### **3. Results**

The first part of this section describes the demographic information of the respondents and followed by the second part on the items concerning the needs of analysis for the module.

#### **3.1. Respondents’ Demographic Background**

##### **3.1.1. Type of Universities**

Respondents are from both IPTA and IPTS. IPTAs are categorised into four categories used by the Ministry of Education (MOE), which are Research University, Comprehensive University, Focused University and Private University (IPTS). All IPTSs are classified under one cluster. Data from the survey shows that more than half of the respondents are from comprehensive universities which are 54%, followed by research universities 28%, focused universities, 10% and IPTS, 8%.

##### **3.1.2. Gender**

The majority of respondents were female whom 83 individuals representing 61.5% from total respondents, whereas male respondents were 52 or 38.5%.

##### **3.1.3. Disciplines**

Seven categories of disciplines used to categorise research area by Ministry of Education (MOE) for FRGS research grants are used to group the disciplines of the respondents. Based on the responses, majority of the respondents are from social sciences indicated by value of 48.89%, followed by technology and engineering, by 26.67%.

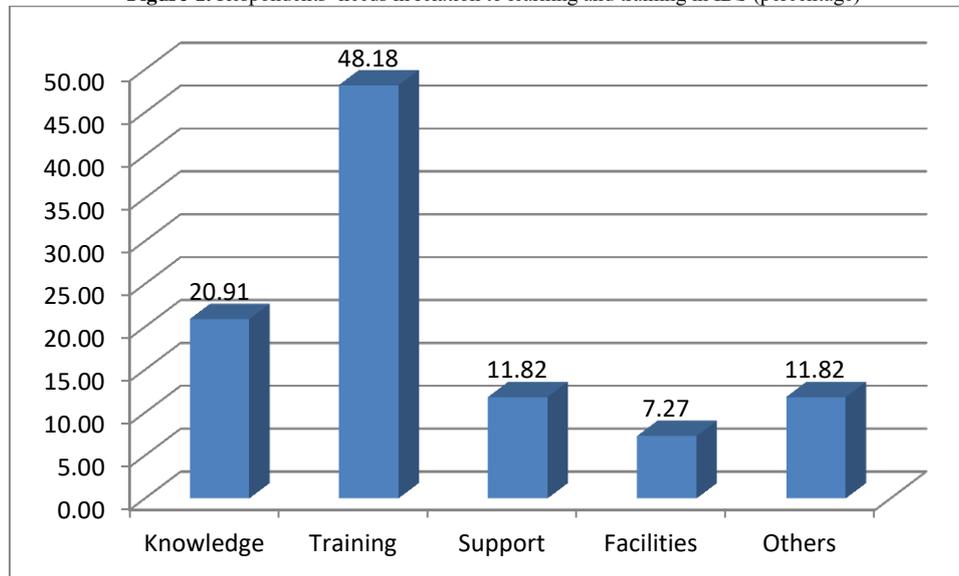
The majority of the respondents are represented by senior lecturers (66 or 48.9%), followed by lecturers and others ranks (33 or 24.4%).

#### **3.2. Objective 1: To Identify the Lecturers’ Needs In Respect Of Knowledge and Skills to Support Their Involvement in IDS**

The respondents were also asked to identify their needs in relation to learning and training in IDS. The finding of the analysis is shown in Figure 1.

Based on Figure 1, it was found that almost half of the respondents (53 or 48.18%) require some form of training or workshop in IDS. In addition, 23 respondents (20.91%) also admitted that they need knowledge on IDS, which can be in the form of manual, guideline, etc. Also, 13 respondents (11.82%) stated that they need support from the institution including financial support, management support, and expert mentoring. The need to have enough and proper facilities is also identified as another theme that has been identified by eight of the respondents (7.27%).

Based on the qualitative data on the respondents’ feedback pertaining to the lecturers’ need in relation to learning and training in Instructional Design and Strategies (IDS), six themes have emerged: (i) lecturers’ knowledge, skill and attitude (ii) facilities, (iii) class size, (iv) support, (v) time constraint, and (vi) students’ knowledge, skill and attitude.

**Figure-1.** Respondents' needs in relation to learning and training in IDS (percentage)

### a. Lecturers' Knowledge, Skills and Attitude (KSA)

In terms of lecturers' KSA, the level of awareness in IDS among the respondents is very low. There are those who admitted a need to learn about IDS. Also, even for the respondents who have a certain level of awareness in IDS, they still need to do continuous reading in IDS: "I need discipline specific IDS strategies for larger classroom and diverse learners".

Another respondent with highest level of knowledge on IDS stated:

"Although I have been long involved in experimenting with various types of small group hands-on training for both students and teachers in PBL and prescribing skills training, I am not very sure if this is considered an example of IDS. Therefore you might find that my replies may not be consistent. Sometimes, I am answering according to lectures, sometimes PBL and other times practical/procedural skills training."

### b. Support

The respondents agreed that they need some kind of support in doing IDS. Three types of supports have been highlighted by them: management, expert or financial support. For instance, one respondent mentioned about the need from the management side:

"Need support of institutions and make this as one agenda as much as the research agenda will be. Capacity building is pre-cursor for research building. Getting more high-level thinking student as feeder to the research agenda needs building up firm in undergraduate training"

In addition, one respondent has also requested for expert support / mentoring.

### c. Training

Several respondents have requested a series of IDS training covering the basic, intermediate and advanced levels. As quoted by one of the respondents:

"A series of hands on workshop (basic, advanced, intermediate) which perhaps compulsory for all academic staff to attend".

Another respondent has brought up the need of courses related to IDS:

"Introductory courses to get to know about IDS and later on intermediate courses to further enhancing my knowledge and skills on IDS".

This was also highlighted by another respondent: "a workshop for better understanding for all lecturers"

Some respondents have also requested specific trainings on handling certain software skills in designing and developing their instructional materials, such as "flash / animation software, and presentation software (prezi, or better use of powerpoint)".

Also, another respondent has raised a need on IDS training in specific field: "We need to be trained in IDS in a small group according to our department, e.g., English Department". Another respondent has stated: "Need awareness/workshop and how to relate it to my field of teaching"

### d. Facilities

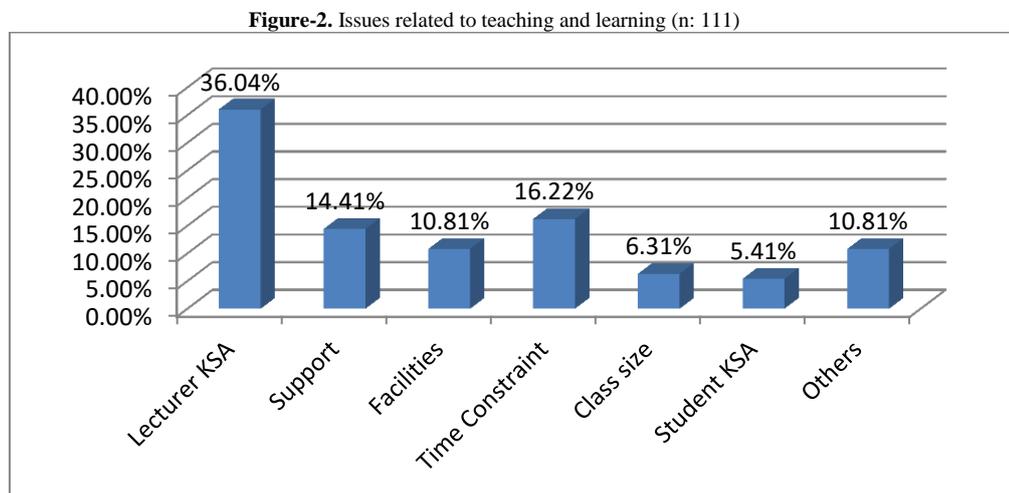
Besides the need to have training and exposure on IDS, some respondents have also requested better training facilities in their faculty/institution, and these include ICT facilities. In addition, another respondent has even suggested the need to have an ideal classroom such as a student-centred learning (SCL) classroom.

### e. Others

Besides identifying their needs on IDS, there are respondents who do not have interest in IDS, and who felt that IDS is not relevant in their profession.

### 3.3. Objective 2: To Look Into the Issues and Challenges Related To the Implementation of IDS in Higher Education Institutions

The respondents were also asked to identify the issues and concerns that they are facing when conducting teaching and learning activities. Figure 2 shows the finding of the respondents' feedback for issue and concerns related to teaching and learning.



The main issue is their lack of knowledge, skills and attitude regarding IDS, with 40 respondents (36.04%) claimed to experience this issue. This is followed by the time constraint factor, with 18 respondents (16.22%) admitted that they do not have time to do the proper preparation in IDS. Next, 16 respondents (14.41%) claimed that they do not have enough support, either from the management, expert, or in terms of financial support. The facility issue is another main concern by the respondents, with 12 of them (10.81%) claimed that they are experiencing some facility issues in their institutions. In addition, seven respondents (6.31%) claimed that class size is another factor that has hindered proper IDS implementation in their teaching and learning activities. Also, six respondents (5.01%) identified their students' knowledge and attitude as another factor that has affected their IDS implementation.

Based on the comments and feedback from the respondents, six main themes or factors have been identified. The breakdowns of the analysis are discussed as below:

#### 3.3.1. Lecturer's Knowledge, Skill and Attitude

One of the challenges identified by the respondents is to generate the lecturers' interest in applying IDS in their academic work.

"We need a buy-in of this. The challenge is on how lecturers see teaching learning is upmost items in their career life. If they do not get the philosophy of this strategy, they need to be educated not be against it".

In addition, they also need to be trained on how to motivate their students in classroom. As one noted:

"The challenges faced in many cases are not on the method of teaching but I think is more on how to drive the students to be an active learner who are willing to learn and not who are forced to learn."

Moreover, IDS is yet to be practiced in higher education institutions. As such, campaign or publicity on its benefits and importance is needed.

"The IDS implementation is not a culture yet in this university, so the awareness is very low, so we have to inculcate, disseminate and encourage the use of IDS."

Some respondents have also raised the issue pertaining to the lack of IDS knowledge among the lecturers, and that they still have "traditional view on teaching and learning".

#### 3.3.2. Support

Administrative leadership support is an issue due to the fact that many lecturers need to be trained and convinced about IDS and to change the current teaching and learning practice. As stated by a respondent:

"Administrative leadership support (or rather the lack of it). In the Faculty of Medicine, the teaching of many programmes and courses, especially for MBBS or undergraduate medical programme is shared by many academic staff, it is therefore difficult to do research or experiment with changes without going through a number of steps to get approval for such studies".

Also, different priority and focus of the university as well as career advancement have led to less focus on Teaching and Learning. As one respondent puts it:

“The main challenge is the focus of the university solely on research and publications. Staff not in the educational faculty do not normally publish IDS papers, and there is very little incentive to spend time and effort on such activities which do not contribute to career advancement”.

In addition, other administrative duty and workload has affected their IDS practices. As one respondent claimed:

“I have not received training in this and due to my administrative duties have little time to attend voluntary training as it is not recognized in my KPI”.

### 3.3.3. Facilities

Some respondents are concerned about the lack of facilities available in their institutions. For instance, one respondent claimed: “ICT facilities are not sufficient”, while another respondent stated “Class not conducive for PBL”.

Another respondent has brought up the issue of the fixed classroom setting that limits the students’ movement: “Fixed lecture hall that limited movement”

### 3.3.4. Time constraint

Another issue or concern that has been identified from the respondents’ feedback is the time constraint in implementing IDS activities. For instance, one respondent brought up the time constraint in preparing the teaching and learning materials: “Time constraint to prepare all the materials”. While others do not practice IDS as “planning takes forever”.

Meanwhile, a worrying trend is that for some respondents, their time is mostly spent on research. Therefore, little time is focused on IDS matters.

“Time. Most of my time is spent on research. I do my best to perform well in teaching and that is all my effort for now. I haven't received much complaint from my students, so I take it as a measurement that I didn't do too bad. When there is some time to spare I will definitely get myself involve in IDS workshops because I really feel students deserve the best learning experience from this university”

Another issue that perhaps need to be looked into is the mismatch between the lecturers’ professional body requirement and the IDS practices. For instance, one respondent stated:

“Class activities and evaluation tools used may not match external legal profession qualifying board expectations”

### 3.3.5. Class size

Class size is another main issue that has been identified from the survey. It is rather challenging to practice IDS if the class size is big as students have different learning abilities and the lecturer has to tackle these differences. As one respondent wrote:

“Big gap/difference of learning ability among students in big class (e.g. 90 or 120 students)”

### 3.3.6. Students’ KSA

Some of the respondents have also raised concerns about their students’ knowledge, skill and attitude. In other words, the implementation of proper IDS will also depend on the students’ KSA. For instance, as one respondent stated, “some students still prefer didactic teaching” as opposed to a more engaging and interactive inductive approach of student-centred learning.”

Another issue or concern is regarding the unwillingness of the students to participate and cooperate in classroom activities such as discussion. As one respondent wrote:

“The main issues and challenges in implementing IDS is that the participation of students themselves in any forms of discussion is very weak....very shy to talk in front of their classmates...”

## 4. Discussion and Conclusion

A majority of the respondents perceived high level of awareness of the basic principles of course/lesson design. This level of awareness, according to IBSTPI(Koszalka *et al.*, 2013), is much needed in the current practice of delivering their lessons. However, according to the participants, they have been practicing it based on their personal instinct and experiences without any formalised training. The data from Intentional Futures (2016), showed a vital need for a formal training of IDS in four areas of responsibilities, namely: Design (Instructional materials and courses, particularly for digital delivery); Manage (the efforts of faculty, administration, IT, other instructional designers, and others to achieve better student learning), Train (faculty to leverage technology and implement pedagogy effectively) and Support (faculty when they run into technical or instructional challenges).

With regards to the level of involvement with IDS, the participants indicated a lack of knowledge and practice. Not only they have no working knowledge, they are also not familiar with the literature on IDS, as well as do not conduct research on IDS. The above findings agree with those claimed by Shrock (1985) whereby the instructional design was not accepted by a vast majority of faculty members due to concerns such as the general principles and procedures of ID were often misunderstood. Another explanation to the finding may relate to the studies by (Hoogveld *et al.*, 2002) who found that instructors merely follow the syllabus and do not perform the needs analysis, and evaluation activities.

Four main issues and challenges were identified by the respondents in this study. Pertaining to the implementation of IDS in higher education, the main issue is the lack of knowledge, skills and attitude (KSA) regarding IDS. The study by [Raja Maznah Raja Hussain \(2013\)](#) showed that knowledge and skills are important in the implementation of online teaching. The second issue is time constraint whereby the respondents admitted not having enough time to do the proper preparation in IDS. Related to this issue, faculty members need to take more time to prepare the steps to follow the principles of IDS ([Raja Maznah Raja Hussain, 2011](#)); *Intentional Futures*, 2016). The respondents also identified the lack of support either from the management, expert, or in terms of financial support. It is vital to equip the faculty members with such support as indicated in study of [Embi \(2011\)](#). Next, the respondents claimed that they are experiencing some facility issues in their institutions. Among those examples stated were ICT facilities and fixed lecture hall that limits movement. The study by [Fahmeeda Adib Azhari \(2015\)](#) indicated similar problems in facility issues and suggested that a conducive learning environment be provided to facilitate e-learning.

## 5. Recommendation for Practice

- Administrators and faculty members must recognise that it takes time to equip one with the KSA in IDS. Administrators need to provide full support to faculty members and continue to look for effective and efficient means to assist faculty members in learning this new practice.
- A Continuous Professional Development (CPD) program related to IDS must be offered to accommodate the lack of KSA amongst the faculty members.
- Collaboration among the faculty members must be encouraged to share ideas and teaching strategies to promote IDS. Faculty members can share ‘best practices’ in a colloquium, workshop, seminar and conference to achieve such objectives.

### *Recommendation for Further Study*

- This study has provided a baseline data on the practice of instructional design among faculty members in Malaysia. However, due to the limitation in the number of respondents who were from the public universities, it is suggested that the study be extended to a larger population to include both the public and private institutions.
- It would be beneficial to suggest more research done on specific IDS training so as to cater the continuous professional development training for specific disciplines having unique teaching needs.
- A more in-depth qualitative study to observe the best practices used amongst the faculty members to determine the extent of IDS practice.

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