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INFLUENCE OF GENERAL EDUCATORS' KNOWLEDGE ON
TEACHING PERFORMANCE FOR STUDENTS WITH
LEARNING DIFFICULTIES IN INTERMEDIATE SCHOOLS IN
RIYADH, SAUDI ARABIA

Reem Alshuwaysh^{1*}, Loh Sau Cheong², Wail Muin Ismail³

¹ Department of Educational Psychology and Counselling, University of Malaya
Email: reem-zezom@hotmail.com

² Department of Educational Psychology and Counselling, University of Malaya
Email: lohsch@um.edu.my

³ Department of Educational Foundations, University of Malaya
Email: wailismail@um.edu.my

* Corresponding Author

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Abstract:

This investigation examines the influence of knowledge about learning difficulties (LD) on the teaching performance of general educators who teach students with LD in intermediate schools in Riyadh, the Kingdom of Saudi Arabia (KSA). It also aims to analyse the moderating effect of the amount of teaching experience in this relationship. A questionnaire survey was used to collect data from 401 general educators in regular intermediate schools in Riyadh. Those educators completed the questionnaire containing items related to knowledge of LD, and they also completed a teaching performance questionnaire. The data collected in this study were analysed using a structural equation modelling approach (SEM) via analysis of moment structures (AMOS). The findings from the structural analysis indicated that the general educators' knowledge was significantly influenced by their performance. A moderation analysis confirmed the significant effect of years of teaching experience on the relationship between knowledge and teaching performance. Accordingly, the findings will contribute to the body of knowledge in the KSA regarding the knowledge of general educators and their practices. The findings will also be beneficial to educationists in the field of LD and policymakers in the Ministry of Education. This research also has the potential to reflect positively on general educators' teaching performance, thus enhancing their handling of students with LD.

Keywords:

General Educators, Learning Difficulties, Knowledge Of LD, Inclusion, Teaching Performance

Introduction

In all aspects of education, the inevitability of the role of general educators in an inclusive classroom is undeniable, especially for the successful inclusion of students with learning difficulties (LD). In fact, more concentration is required on the part of general educators, inasmuch as students with LD receive their learning in the same classrooms designed for general education. Besides, general educators are responsible in the first place for the evaluation of students with LD, because they are their first permanent teachers who teach them throughout the various levels of their education. Thus, general educators recognize these students' learning abilities due to their direct and long-term interaction with them (Abunayyan, 2019). Acknowledgement and consideration by all educators of the fact that general education classrooms consist of all kinds of students (students with LD and students without LD) is one of the essential aspects of inclusion (Blanton, Pugash & Florian, 2011). Moreover, the understanding of general educators about learning difficulties is paramount in inclusion, as its successfulness largely depends on the level of that understanding (Smith & Tyler, 2011). Alquraini and Rao (2018) have confirmed the necessity and importance of educators' efficiency in the required knowledge and skills of effective teaching in order to perform their duties as competent general educators. Considering the increase in the number of students with LD in the Kingdom of Saudi Arabia, educators need to increase their knowledge of LD, as well as their general understanding, practices and attitudes to influence students' learning (Schwab, Alnahdi, Goldan and Elhadi, 2020; Alnahdi, 2014; Essa and El-Zeftawy, 2015). Normally, general education teachers usually have a bit of information about learning difficulties. This phenomenon results from the lack of in-service training programs for the teachers on the method of teaching students with LD. More so, general education teachers usually don't bother to further their studies on efficient ways of educating students with LD. Likewise, during teachers' training programs, there are not enough class hours devoted to observation of the challenges that students with LD encounter and their solutions (Essa and El-Zeftawy, 2015; Dapudong, 2014). In fact, since the inclusion of LD students has been made mandatory, the assessment of general education teachers' knowledge about working with LD students has also become necessary. This assessment should cover the level of their general knowledge, their proficiency and understanding of teaching LD students. Alnaim (2015) uncovered the necessity of such assessment for better results in terms of the academic achievement of LD students; otherwise, there will be unsatisfying results if those teachers adopt different methods of teaching which are not suitable for students with LD.

A couple of studies have found that general educators have indeed attained the knowledge of how to teach LD students, but lack the application in their teaching performance. Al-Ahmadi and El-Keshky (2019) discovered that general educators are ignorant of the systematic approach of resolving possible problems which they might encounter in teaching LD students. Thus, some former researches emphasized on this major vacuum and apparent contradiction between the knowledge of the educators and their practices in the classrooms (Alrubaian, 2014; Maria, 2013; Rouse, 2008; Kos, 2008). Moreover, Smith and Tyler stated that many incompetent general educators find it very difficult to handle inclusive classroom. They also

emphasized on the importance of educators' knowledge and enthusiasm for the accomplishment of the overall objectives of improving general students. Schwab et al. (2020) asserted the need for general educators to broaden their knowledge regarding special needs, besides their general professional knowledge. Alsudairy and Baothman (2018) and Alharthi and Evans (2017) also affirmed the need for educators to be well-prepared with the necessary knowledge and required skills before engaging themselves in inclusive educational activities. In summary, teaching LD students requires a certain amount of specific knowledge. Marimuthu and Loh (2016) asserted the need for teachers to have the knowledge, professionalism and proficiency in order to properly convey the educational programs that will lead to the manifestation of value, self-confidence, support and achievement of full participation in society. In addition, general educators are expected to respond to these diversities among learners by employing various needful approaches and skills that are required for the accomplishment of successful education. Alquraini (2013) affirmed that LD students in KSA receive their learning in regular classrooms with some backup from private instructions and from special educators in resource rooms. It is confirmed that the necessity for resource rooms manifests when general educators are incapable of handling LD students and are unsuccessful in solving academic problems (Al-Zoubi & Abdel Rahman, 2016). More so, Aqeal (2014) proved that teaching of LD students has become a challenge for the general educator in KSA, and referred the problem to the lack of the required knowledge and teaching skills of the general educators, who are responsible for teaching all subjects to the students, even the subjects with which they encounter difficulties; thus, these students find it difficult to overcome their problems. LD students spend most of their time in regular classrooms, while they spend only a small part of their time in the resource rooms to receive supplementary support from the special educator. Murry and Alqahtani (2015) emphasized the necessity of having knowledge about the inclusion of students with LD, and the importance of employing all necessary practices by the educator in order to guarantee an effective inclusive education in KSA. Moreover, the knowledge and confidence of the educators constitutes their ability to fulfil the needs of LD students (Stampoltzis et al, 2018).

In respect of teaching experience, Berry's study revealed that experienced educators perceive that new educators do not bother about the personal needs of students with disabilities. He also discovered the low interest of new educators in the identification of disabled children, while their interest in instruction is high, even though the former is considered as a paramount aspect of knowledge about disability. Furthermore, Berry recommended in his study the attainment of common information related to the features of students with disabilities and ways of accommodating them. He also recommended the need for educators to identify the most active strategy in dealing with the students (Berry, 2011).

Generally, not much research has been done on the level of general educator's knowledge about LD in the KSA. Indeed, there are yet to be any studies aimed at investigating the effect of educators' knowledge of LD on their teaching performance in the KSA, as well as the moderating effect on these educators' teaching experience in terms of their knowledge and teaching performance. Thus, the current study found the gap in the literature in this regard, and accordingly, this current investigation is aimed at filling this gap by examining the influence of general educators' knowledge on their teaching performance in intermediate schools, including on students with LD in the KSA. It also aims to identify its effect on the educator's teaching experience and the relation to their knowledge and teaching performance as well. Hence, this study focuses on general educators with the following objectives:

- To identify if there is a significant influence of knowledge about LD on teaching performance among general educators who teach students with LD in intermediate schools in the KSA.
- To determine if there is a significant moderating effect on knowledge and teaching performance according to teaching experience among general educators teaching LD students in intermediate schools in the KSA.

Theoretical Foundation

Background of Learning Difficulties in the Kingdom of Saudi Arabia

In Saudi Arabia, the area of special education was developed between 1987 and 2000. The development was significantly made to render services for LD students who were attending public schools. Due to the insufficient knowledge of LD services in the KSA, LD services are considered as one of the last services offered in the field of special education in Saudi Arabia (Aldabas, 2015). Based on Al-Mousa's (2010) study, the operation of LD students' education was shifted from separate schools to regular schools between 1990 and 2000. To be precise, the provision of LD students' educational services in general schools occurred for the first time between 1997 and 1998 (Abunayyan, 2019). After 2002, LD students in the Kingdom of Saudi Arabia were eligible for the free public education. Hence, students with LD are now receiving their learning in the general education classes. According to the Ministry of Education of Saudi Arabia (2002) KSA Regulations of Special Education Programs and Institutes (RSEPI), students that are suffering from LD should receive their education in the lowest restrictive environment (Gehrke & Cocchiarella, 2013). In addition, the Saudi Arabian government has given more attention to students with LD, as it is obvious from the efforts of the KSA Ministry of Education of Saudi Arabia (2016). Besides, there is provision of the best services for them, and efforts to facilitate the procedures that will elevate their independence to the highest possible level. The Government has also conducted programs to work on how to incorporate them in social activities and provide a conducive environment and proper education for them in the least restrictive environments (LRE).

After the enactment of the Act of 2002, "No Child Left Behind" (NCLB), the total of LD students in general education classrooms increased. Thus, the challenge for general educators also rose, especially in the aspect of fulfilling the requirements of LD students, beside their commitment to teaching general students (Casale-Giannola, 2012). The global change towards the LD cannot be generally applied and adopted by all countries, as it requires a great effort to determine a suitable system for every country. Schwab et al. (2020) and Alnahdi (2014) asserted that the progress on the ground for the provision of necessary services and resources for students with special needs that are learning in regular classes in the KSA is insufficient, especially when the increase in the number of students with special needs should be considered. Consequently, special learning environments must be prepared, together with competent educators that can appropriately handle students with LD. Al-Ahmadi (2009) proved that the application of NCLB with the current Saudi Arabian instructive framework is irrational, due to the fact that many teachers are suffering from lack of professional qualification and pre-work training programs prior their teaching in inclusive classrooms. Such situation will only worsen the problems and challenges of students with LD. The confirmation by LD specialists on the problem of identifying LD students by general educators due to their ignorance in that field was recently reported by Almedlij and Rubinstein-Ávila (2018). Therefore, the need for the

establishment of programs to facilitate general educators working with Students with LD is warranted in the KSA.

Conceptual Framework

First and foremost, Burroughs et al. (2019, p. 9) describe educators' professional knowledge as "their subject-matter knowledge, curricular knowledge, and pedagogical knowledge". Beswick, Callingham, and Watson (2011) illustrated five common domains of teachers' knowledge that are widely used i.e. general pedagogic knowledge, curriculum knowledge, content knowledge, educational context knowledge and knowledge of context. Additional domains of teachers' knowledge have been proposed by Shulman (1987), which are the seven kinds of teachers' knowledge that are usually employed by the teachers i.e. "content knowledge, general pedagogical knowledge, curriculum knowledge, pedagogical content knowledge, knowledge of learner characteristics, knowledge of educational context and knowledge of educational goals and values". Shulman's model of knowledge (PCK) consists of a cycle of many activities that are significant in determining the success of educators in their teaching process. There are some questions that need to be answered whenever the knowledge base of teaching is being discussed, i.e. comprehension of subject matter, definition of the meaning of base knowledge and other corresponding concerns; nevertheless, research findings on efficient teaching are usually considered as the core aspect of the knowledge base. Educators and policymakers in the United State of America were previously subjected to the formula which stated that teaching needs basic skills, content knowledge and general pedagogical skills. Thus, the evaluation of the teachers encompassed some series of basic skills assessment, examination of the efficiencies in the subject matter and classroom observation, to guarantee the provision of the approved types of general teaching performance (Shulman, 1987). When "research-based" definitions of good teaching have been adopted by policymakers to set up the classroom observation systems and assessment of the teachers, the performance of the teachers that had been revealed as effective in empirical research, together with the knowledge and skills, were included among the competencies that were demanded from the teachers. Therefore, the first priority of the teaching process becomes the awareness of the teacher on the necessary knowledge to be learnt and known, and how it is to be conveyed and taught to the students, and how the information will be understood and comprehended by both parties -teachers and students. This is in fact what is considered as the fundamental concept of teaching. It is also however incomplete; thus, Shulman's theory represented the class of information that emphasized the need for teachers' understanding to facilitate student comprehension (Shulman, 1987). Ever since Shulman set up these seven categories of knowledge, this model of knowledge has been employed by many researchers as a significant guide for the preparation of the teachers, as well as the investigation of their knowledge. So, it can be deduced that Shulman's model will predict the influence of the teachers' competencies and performances on the achievement of the students. Alquraini and Rao (2018) referred to Shulman's model of knowledge as an aspect of teachers' competencies in their study about the implications of special education on the educator preparation programs in the KSA. Likewise, Florian (2012) reported the results from a Scottish inclusive practice project (IPP) which intended to prepare Scottish teachers to work effectively in inclusive classrooms by considering Shulman's principles of teachers' knowledge, in order to investigate the effects of this project on teacher practices.

In the current research, the researcher precisely used PCK to examine the respondents' knowledge and its impact in teaching performance by recognizing the areas of knowledge for

the educators. Furthermore, the researcher employed this model in developing the questionnaire on the educator's knowledge for this research. The content of the educators' knowledge defined by Shulman should assist the researcher to determine the kind of knowledge that is needed by the educators for good performance in the class; not the ability of explaining this knowledge, but to know the extent of the possibility of the prediction of their teaching performance with this knowledge. Based on the study of Neumann, Kind and Harms (2018), PCK is a combination of information that is developed through the conversion of the subject matter into content for teaching during teaching apprenticeships. Shulman (1986) proposed that educators ought to have the conceptual knowledge that is necessary for the understanding of the subject, instead of sticking to only subject matter knowledge. He also stated that conceptual knowledge enables educators to have a deeper comprehension of the content, and such understanding is the best way of instilling knowledge into the students through teaching.

In brief, the model of this study can be seen in Figure 1. This figure clarified the relationship between this study's variables. Accordingly, this study aims to examine the influence of the independent variable (knowledge) on the dependent variable (teaching performance). As well as this study also aims to investigate the moderation effect of the moderator variable; (teaching experience) on relationship between IV and DV.

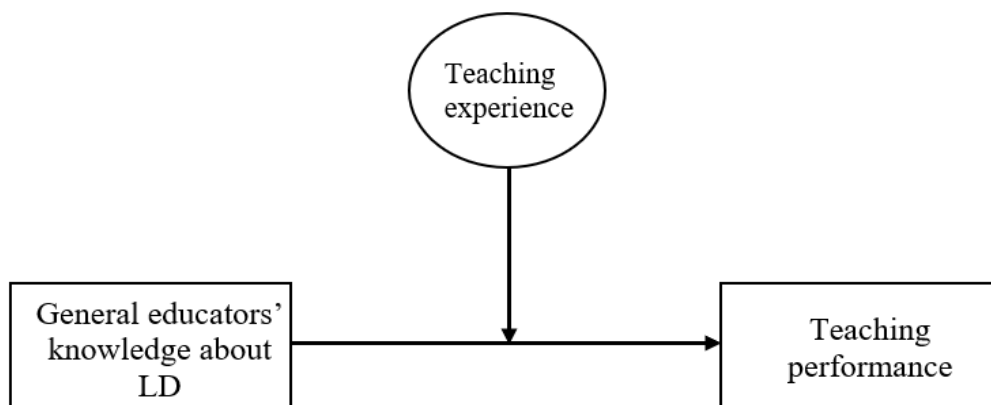


Figure 1: Model of the Study

Literature Review

Berry (2011) in his study stated three major aspects of children with disabilities that should be studied and understood: understanding of the type of disability, understanding of the individual features of the student with disability, and setting achievable expectations for the students with special needs. He also argued that understanding of the nature of disability is the main determinant of the most effective approach for the students with special needs. Furthermore, the researcher recommended the rehabilitation of educators through several means, i.e. preparation programmes to ensure their attainment of required knowledge, skills and attitudes to teach special needs' students. Florian (2012) stated some lessons derived from the Scottish Inclusive Practice Project (IPP). The objective of the project is to prepare and improve the Scottish educators to work skilfully in the inclusive classrooms. "The IPP considered issues of pedagogical content knowledge linked to Shulman's conceptualisation of professional learning as apprenticeships of the head (knowledge), hand (skill) and heart (attitudes and beliefs)" (Florian, 2012, p. 267). In summary, this study revealed that the programmes for the

preparation of the educators can address the vacuum between the various kinds of knowledge produced through research and practice. In addition, Florian' study promoted the transformation of research from ordinary theory to practice, and therefore, to be publicized in inclusive classrooms.

In a study carried out by Musyoka, Gentry, and Meek (2017), educators' conceptions about deaf students who were suffering from other disabilities, such as LD, was investigated. Almost all of the educators requested for information about different kinds of disabilities and the way by which the teachers influence the learning of those students. The report stated that there was no provision for any special coursework for dealing with students with disabilities, which resulted in the absence of skills and understanding in this field of teaching. Therefore, many participants sensed the need for extra information about the usual disabilities that the students in inclusive classrooms encounter. Most of the educators based on the study of Musyoka et al. (2017) admitted their ignorance and lack of teaching skills when it came to students with disabilities. They considered their lack of that knowledge as a big issue, particularly when they had to deal with students who had additional disabilities i.e. LD. Other findings stated that there was a pivotal relationship between classroom management and educators' knowledge; above 50% of educators in that study proved that classroom behaviour management was problematic and challenging.

Khalil, Alshareef, and Alshumrani (2019) denied the existence of a significant connection between the practices and conduct of educators, and their knowledge and teaching experiences in both pre-group and post-group of Saudi Arabian primary schools, which are the groups of experimental study in the KSA. The findings also revealed the effectiveness of the educational intervention program, which is designed for the improvement of the knowledge and conduct of pre-group teachers who have not attended ADHD training program. Furthermore, the study showed that there was a serious lack of educators with knowledge about the ADHD program. Another beneficial result of that study is the proof of the lack of significant impact of educators' teaching experiences on their knowledge and teaching attitudes. Another study that was conducted in the KSA by Al-Ahmadi and El-Keshky (2019) examined general educators' knowledge about LD. The questionnaires of the study were distributed among 902 teachers in public and private schools in the KSA. This study showed that the rate of understanding about specific LD in the midst of most of the primary schools' educators was only average. Thus, the lack of general educators with adequate knowledge about LD is apparently obvious from the study. Accordingly, they have no idea about the solution to the problems with LD students. The study also stated the existence of major divergence between the level of male and female knowledge about LD and denied the impact of years of experience on the level of knowledge. More so, the study related the lack of knowledge on LD to the absence of LD training courses for the teachers.

Essa and El-Zeftawy (2015) assessed the general knowledge, skills and attitudes of male educators towards teaching, supporting and examining LD students in Egypt. They confirmed the existence of a favourable connection between the total score of reported practices, total knowledge score and approaches towards LD. The findings of the research also affirmed the impact of the knowledge, conduct and practice of educators on the students' learning. Other results of this study emphasized the existence of a positive relationship between knowledge and practice. Thus, it showed that years of experience influence the standard of educators' knowledge.

Maria (2013) examined 200 female teachers in Romania to find if there was a difference between those educators' knowledge and their behaviour by using a questionnaire regarding knowledge of specific terminology and used several focus groups. The questionnaire of the study consisted of classes of items related to the information about the educators' knowledge on the main concepts of inclusive practices, i.e. inclusive education, special education, special education needs, mainstream schools and Individual Education Plan (IEP). The study revealed the vacuum between what teachers thought they knew, and what they actually knew. It was shown in the analysis that the majority of the teachers suffered from lack of understanding of the major concepts mentioned earlier. In point of fact, the understanding of major concepts of inclusive practice and information about the students with learning difficulties is indisputably needed for the establishment of successful inclusion. The findings of the research also showed the gap between the knowledge and attitudes of the teachers in the inclusive classrooms. Kos (2018) examined the connection between the teaching attitudes and knowledge of educators, by using planned behaviour theory and reasoned action theory. The self-report questionnaire of Kos comprised 120 participants selected among male and female educators who worked in classes with ADHD students. The study revealed the lack of willingness of the educators to apply classroom management strategies due to their lack of confidence in the benefit and effectiveness of the strategy. Another result of the study confirmed the contradiction between their experience and knowledge. Burroughs et al. (2019) asserted that the essence of educators' knowledge is about the subject matter they teach. However, there is little evidence to prove the impact of the subject-matter knowledge on the improvement of educators' performance. The author proved the existence of a strong connection between the educators' method of preparation and their performance, while the reverse is the case regarding the relationship between the educators' knowledge and their performance. The summary of their study revealed the frequent fluctuation between the educators' knowledge and their performance; the most learned educators strive to pass the content of the subjects, in which they have wide knowledge. A study conducted by Blazar (2015) depended on two observation tools. According to this study, the changes that occur to some parts of the classroom practices due to the educators' knowledge do not improve the learners' performance. The study also discovered that lack of content knowledge of the educators negatively influenced the students' achievement. In most cases, performance declined with the improvement of the educators' knowledge. This scenario signifies a negative connection between educators' knowledge and student performance. Likewise, Harris and Sass (2011) confirmed that there is no constant connection between educators' knowledge and their effectiveness in the classroom. Harris and Sass (2011) also confirmed that there was no proof of positive impact of the knowledge gained by the educators during their training on the improvement of their productivity. The literature reviewed by the writers stated that educators who are assumed to be well-versed in their subject at times fail to deliver the content correctly.

In respect to the teacher's competence, Madhya and Siyarajan's (2015) study intended to assess the competence of 85 teachers of special education who work in Special Education Integrated Programs designed for students with LD in Malaysia, and to recognize the elements related to the high levels of teachers' competency. This study employed an interaction survey method, which comprised of a survey, observations and interview. This study discovered that teacher's expectations and educators' content knowledge are not important but reinforce the standard of teaching competency. In addition, it was revealed that the four predictors -school location, gender, teacher specialization and job- had no impact on the level of teaching competency.

In respect to the general educators' experience, some researchers have revealed that the number of years of working experience had no impact on educators' knowledge. To buttress this claim, Kamala and Ramganes (2013) examined the educators' understanding on specific learning disabilities in India, and the study revealed that the educators who acquired an average degree of knowledge about LD did not have their knowledge influenced by gender or number of years of teaching experience. Likewise, Alkhatib (2007) denied any significant impact of the years of teaching experience and educators' age on the relationship between the educators' knowledge and their teaching performance. Amazing results were revealed in a study conducted by Forlin and Chambers (2011); they discovered that increment of teachers' knowledge about inclusion did not solve the problem of their concerns about the inclusion of students with disabilities in their classrooms. Of the 50% of the participants who were chosen from pre-service teachers, 79% suggested that they had prior considerable amount of interaction with disabled students. Teachers' former training and level of their experience had no impact on their concerns and attitudes towards inclusion. Nevertheless, there was a strong connection between the teachers' perceived level of understanding, confidence, beliefs, attitudes and worries about inclusion. Guerra and Brown (2012) investigated whether the amount of years of teaching experience of middle school educators influenced their level of understanding in a particular field of ADHD. The study showed that the highest frequency of the responses (29%) came from educators who had teaching experience of one to five years, while the educators who had 11 to 15 years' experience recorded the lowest frequency (about 19.6%).

Methodology

The current study employed a quantitative method that focused on a survey design. The following sections provide more details about this study methodology including population of study, sampling method and sample size, and the devolved instruments.

Population of the Study and Sampling Method

The current research population frame comprised all the general educators who work in teaching and educating LD students in their classrooms in intermediate schools in Riyadh, KSA. Considering that Riyadh is the largest city that consists of the highest number of intermediate schools in the Kingdom of Saudi Arabia, it was chosen for conducting this research. More so, Riyadh is believed to be the ideal central town for the application of research and studies, where it is the headquarters of the ministries and other official departments, and where modern practices are exercised before they are introduced in any other city in order to ensure generalisation. Thus, the intermediate schools that operate with inclusive classrooms are included in this study. Inclusive schools indicate the public schools in which the students with LD are being taught together in the same classrooms with other students without difficulties, and such classrooms are known as inclusive classrooms. The intermediate schools selected for this study were chosen for the following reasons: first, the former studies that discussed the general educators' knowledge of LD have been restricted to Saudi Arabian primary schools. Second, intermediate students are in the period of transition from childhood to adolescence, which normally occurs between the ages of 12 to 15. At this stage, children experience several changes in their main characters, particularly in the aspect of their academic performance and motivation. Thus, at this stage, if the necessary attention is not provided by the educators in the classroom, the possibility of increase of students' academic problems is high. It has been revealed by researchers from the University of Michigan that after the

transition of students to middle school, they become less enthusiastic about learning and less confident in their capabilities (American Psychology Association, 2019).

Based on the data from Saudi Arabian Ministry of Education of Saudi Arabia (MOE, 2018), the overall number of intermediate schools that operate inclusive classrooms in Riyadh is 88 schools, and the total number of the general educators that work in those schools is 3174. Significantly, the targeted respondents in the study are the general educators, whose qualifications are not less than a bachelor's degree in any general subject, such as mathematics, science, religious studies, Arabic language, etc. They must also have had working experience in any public intermediate schools that operate inclusive classrooms in Riyadh. Based on Raosoft calculator and Krejcie and Morgan's table (1970), the sample size of this study will be close to 343 participants. However, in order to avoid any unforeseen error or any partial response, and to guarantee the complete response of at least 343 educators to the questionnaire, the sample size will be approximately 500 participants. According to Creswell (2012), the researcher is urged to select as many samples as possible from the study's population to shrink the sampling error. Moreover, another reason for increment of the sample size is the application of structural equation modelling (SEM) for analysing the data. Similarly, Weston and Gore (2006) and Hair, Black, Babin and Anderson (2014) suggested the necessity of a big sample size for the researcher that intends to use SEM, as the case of the current research. Blunch (2013) also emphasized the importance of sample size to avoid any problems that might result from a small sample size. Accordingly, after applying the cluster sampling technique in drawing a representative sample of general educators' random sampling method, the current research collected over 343 responses.

The Instrument

The two questionnaires that were developed for this research were adapted for measuring the variables tested in the research model. The questionnaire about the general educators' knowledge comprised 16 items that were adapted and modified from the Teaching and Learning International Survey (TALIS) Organisation for Economic Co-operation and Development (2009) and Robinson (1996) because the mentioned surveys researched content that is similar to the current research's content. Robinson's survey was specially developed by himself in order to conduct his study on determining the readiness of general educators that deal with students with learning difficulties. Subsequently, his survey was adopted and adapted in many studies. In addition, Shulman's model of knowledge is used in the current research to generate some reports about the educators' knowledge. The second questionnaire that is used in this research is intended to examine the general educators' teaching performance. Twenty items out of the teaching performance questionnaire that measured general educators teaching performance adapted the Classroom Observation Scale (COS), developed by Stanovich and Jordan (1998) and Jordan (2018). The 2018 version of this scale, which is the latest one, was adapted with some adjustment in this research. The measurement of the items was done by using a five-point Likert scale, from 1 = 'extremely unlikely' to 5 = 'extremely likely'.

Analysis and Results

Preliminary Data Analysis And Data Preparation

Initially, AMOS 24.0 was used for the statistical analysis of the collected data, while SPSS version 24 was used for data preparation before the analysis. The researcher followed some significant procedures to validate this study; first, the first version of the questionnaires was

given to PhD holders who are professional experts in special education. Their observations were considered; thus, several statements were removed from the questionnaire, and some of the statements in the questionnaire were rephrased. Second, the questionnaire of the current study was originally written in English and subsequently translated into Arabic. However, in order to guarantee the validity of using this questionnaire in several languages, the techniques that enable researchers to avoid any error in the translation of the study's instrument are required. Based on Chua's recommendation (2016), there are several instructions on the selected language to be used while preparing questionnaire statements. One of the main significant regulations is to apply back translation, in order to guarantee that the used language is found in the mother language of the participants. He also stated that the correct translation techniques, such as back translation should be used in translating research instrument to overcome language problems. Accordingly, many steps were taken to fulfil the questionnaire's back-translation process. These steps were also taken by checking with specialist translators who also have backgrounds in special education, which meant that they were familiar with educational terminologies.

In respect to reliability, the total Cronbach for the factors was above 0.873, which indicates a high value of reliability and emphasizes the validity of the questionnaire to achieve the targets. Therefore, these statistical outcomes suggested that there is no need for removing any items from all variables. Likewise, these outcomes revealed that the multiple correlation values represent a valid standard of correlation for the items in each questionnaire.

Demographic Information

In another part of the analysis, the educators' demographic information was described by using descriptive statistics (refer Table 1). The data were subsequently checked for validity and reliability. Lastly, AMOS was used to determine the fit of the study model. The results are shown in the following section.

Table 1: Summary of Demographic Information of Questionnaires Participants

Variable	Group	Percentage
Gender	Female	59.4
	Male	40.6
Qualification	Bachelor	80.8
	Master	17.7
	PhD	1.5
Experience	Less than 5 years	17.2
	From 6 to 10 years	22.4
	From 11 to 15 years	15.2
	Over 15 years	45.1

Note: *n* 401

Eventually, the questionnaires were distributed to 500 male and female educators in selected schools; 409 questionnaires were completely retrieved, resulting in a total response rate of 81.8%. Nevertheless, after the completion of the data screening, eight questionnaires out of the retrieved ones were found invalid, due to them consisting of the same answers. Hence, 401 questionnaires (80.2%) were valid and usable for statistical analysis.

Data Analysis

Structural Equation Modelling using the AMOS 24.0, model-fitting program was applied to validate the measurement of the influence of knowledge and teaching performance among general educators teaching LD students in intermediate schools in Riyadh. To assess the adequacy of this model, both of the structural and measurement models have been applied by the researcher. Covariance matrix that is derived from the data has been employed to estimate the hypothesized models. Thus, this satisfied the underlying statistical distribution theory is utilized for the estimation procedures, yielding estimates of defensible properties. In the last step of analysis, in order to assess the moderating function of teachers' experience for the achievement of the second objective of this study, multigroup analysis was conducted.

Construct Validity

AMOS 24.0 was used in the current research to assess the construct validity of the measurement model. Three validity tests were carried out for the establishment of the construct validity of the measurement model: convergent validity, divergent validity and overall model fit. First, the overall fitness between the data and that of the feature of the measurement items was examined in other to purify the measurement model. The overall fit was decided by commonly used indices: chi-square (χ^2) = 918.680, degree of freedom (df) = 338, RMSEA = 0.066, comparative fit indicator (CFI) = 0.945, Tucker Lewis index (TLI) = 0.934. However, eight items (six items from knowledge and two from teaching performance dimensions) were deleted for not meeting the specification mentioned.

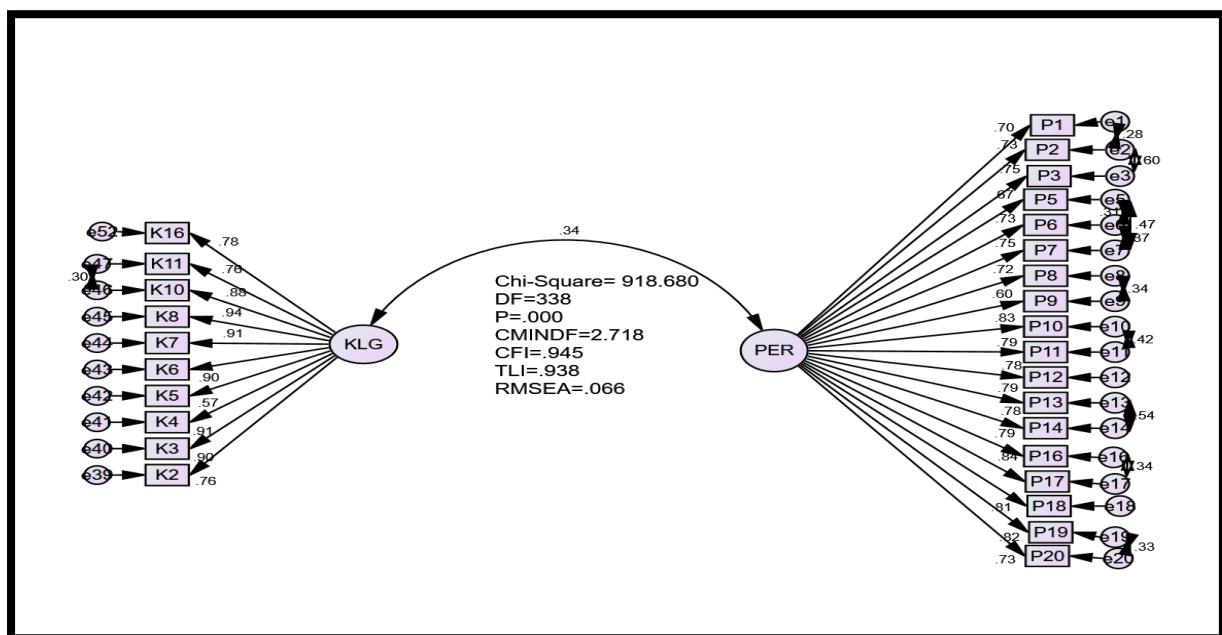


Figure 2: Confirmatory Factor Analysis Results of Study Model

Besides, further evidence vis-à-vis the hypothesized model's validity and adequacy of the measurement model for teachers' knowledge and teaching performance are discussed in this section. This section is focusing on the measurement model in terms of its two types of construct validity, namely, convergent construct validity and divergent construct validity. The first indicator of this step can be examined by observing all items which indicate that entire loadings are above 0.60. In such situation, the factor loading for the items are accepted with

sufficient sample size of participants (Hair et al. 2014). Therefore, all indicators in this study are corresponding with their variable. Thus, there is sufficient proof of convergent construct validity of the measurement model. The composite reliabilities of all factors also exceeded the recommended 0.70 level. Table 2 and Table 3 shows that the AVE values surpassed the threshold value of 0.50 (Kline, 2016; Byrne, 2013; Hair et al., 2014). Therefore, it can be said that both of these two constructs in the model had adequate convergent validity. With regards to the divergent construct validity, as shown in Figure 2, the correlation between the two variables is 0.34 which is far less than 0.85. So, the discriminant validity is supported, and therefore, the discriminant validity is supported by the both of the two variables of this study (Hair et al., 2014). Generally, the results suggest the psychometric soundness of the study model.

Table 2: Mean, Standard Deviation and Convergent Validity Analysis (n = 401)

Constructs	Indicators	Mean	Standard Deviation	Loading	AVE	C.R
Teachers' Knowledge	K2	3.643	1.0840	.758	0.702	0.959
	K3	3.249	1.1886	.900		
	K4	3.309	1.2325	.913		
	K5	3.845	1.0228	.566		
	K6	3.364	1.1671	.903		
	K7	3.175	1.1660	.906		
	K8	3.237	1.2354	.938		
	K10	3.160	1.2387	.885		
	K11	3.204	1.1568	.759		
	K16	3.297	1.1442	.776		

Table 3: Mean, Standard Deviation and Convergent Validity Analysis (n = 401)

Constructs	Indicators	Mean	Standard Deviation	Loading	AVE	C.R
Teaching Performance	P1	4.170	.9253	.698	0.532	0.918
	P2	4.165	.9710	.735		
	P3	4.110	.9370	.748		
	P5	4.399	.7552	.672		
	P6	4.222	.8764	.734		
	P7	4.439	.7726	.749		
	P8	4.097	.8474	.718		
	P9	4.027	.9229	.597		
	P10	4.262	.8116	.827		
	P11	4.302	.8162	.788		
	P12	4.297	.8241	.783		
	P13	4.364	.7597	.787		
	P14	4.369	.7990	.777		
	P16	4.279	.8257	.793		
	P17	4.207	.8772	.841		
	P18	4.242	.8596	.807		

Constructs	Indicators	Mean	Standard Deviation	Loading	AVE	C.R
	P19	4.165	.8988	.824		
	P20	4.150	.9368	.730		

Adequacy of the Hypothesized Structural Model

Following the confirmation of psychometric properties of the research, the structural model was conducted to investigate the influence of teachers’ knowledge on their teaching performance which addressed the first research hypothesis. The hypothesized model showed consistency of the hypothesized causal relationships with the data (normed Chi-square = 2.718; RMSEA = .066; CFI = .945; TLI = .938). All these fit indices for the teachers’ knowledge on their teaching performance model satisfied their recommended values which indicated a knowledge structural model. The parameter estimates of the hypothesized model were free from offending values with uncorrelated errors. The path coefficients of the causal structure were statistically significant at .01 level, and of practical importance. The standardized path coefficient of teachers’ knowledge → teaching performance was important and statistically significant, $\beta = 0.34$. Accordingly, this result indicated that there is a significant influence of educators’ knowledge on their teaching performance (see Figure 3).

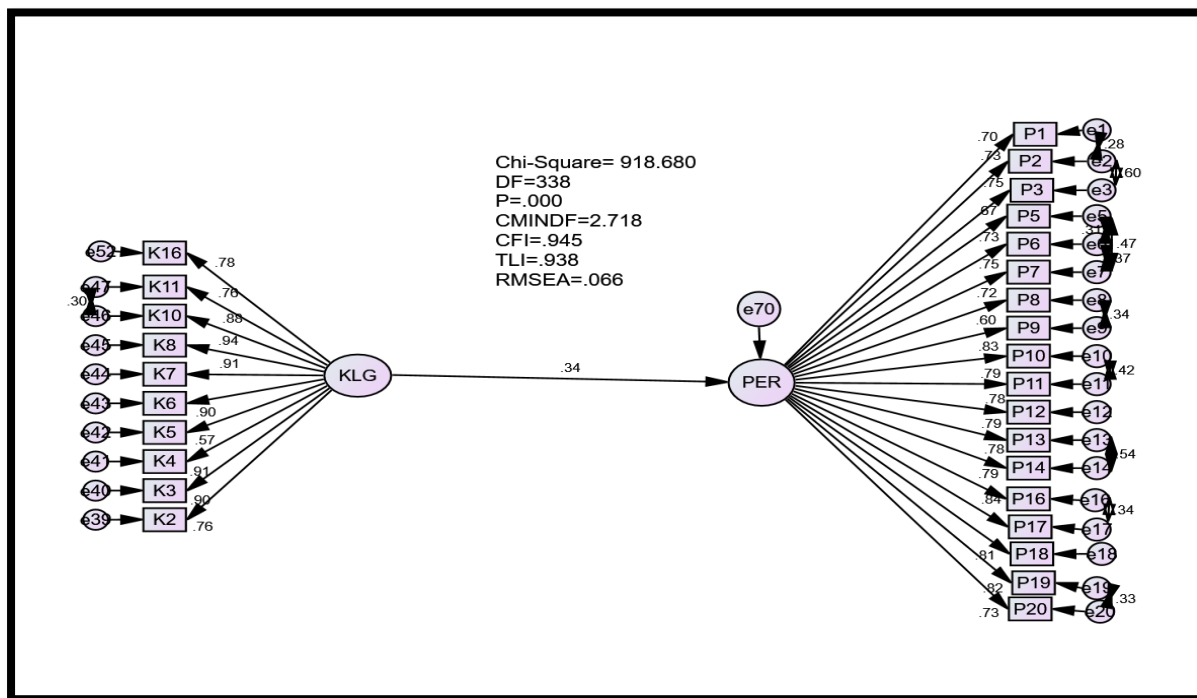


Figure 3: The Structural Model of the Study

Moderating Effect

Table 4 below reveals the outcomes of the moderation analysis which is corresponding with this study’s second hypothesis that investigate the influence of teachers’ experience on the relationship between the teachers’ knowledge and teaching performance. The estimation of the constrained measurement model produced another Chi-square value, which was then tested against the baseline value for statistically significant differences (Kline, 2016; Byrne, 2013). The variance test for the structural model showed statistically significant change in the Chi-

square value across the teachers' teaching experience groups (<5yrs, 6-10yrs, 11-15yrs and >15yrs). That is, the increment in the Chi-square value from unlimited model to the restrained model formed a poorer model of the prelateship between the teachers' performance and their knowledge. So, teaching experience of the teachers modifies the relationship between their knowledge and teaching performance. This is due to the fact that path coefficient of the teachers with either very high or very low teaching experience was bigger than that of the teachers with medium achievements. The path coefficients were .45 for teachers who have less than 5 years' experience, .37 for those teachers with experience between 6 and 10 years, .03 for teachers with experience between 11- 15 years and .41 for teachers with experience over 15 years in teaching field. Thus, the influence of teachers' knowledge on their teaching

performance is greater among those with either very low or very high teaching experience. From this result, it is observed that the number of years of teaching experience moderate the relationship between educators' knowledge and their teaching performance. Therefore, the relationship between educators' knowledge and teaching performance was stronger when the number of years of teaching experience were (less than five years) and (over 15 years). Consequently, the second hypothesis (H2) was confirmed and accepted.

Table 4: Results of the Experience-Invariant Analysis

	Unconstrained	Constrained	Change	Decision
Chi-square	2744.442	2748.811	4.37	Teachers' experience moderates the relationship between knowledge and teaching performance
Degree of freedom	1352	1353	1	

Discussion

The AMOS analysis result revealed that general educators' knowledge was meaningfully and positively corresponding with their teaching performance at (0.34%). This result signifies the positive influence of educators' knowledge on their teaching performance. This result is supported by Essa and El-Zeftawy (2015), who stated that there was a meaningful positive relationship between educators' knowledge and their teaching exercises, which denotes the improvement of educators' teaching skill whenever their knowledge increases. Likewise, Berry (2011) affirmed the possibility of positive impact of educators' knowledge on their teaching performance. Maria (2013) also supported that the knowledge of general educators' knowledge was a critical factor that impacted their teaching behaviour. This result is also reinforced by Madhya and Siyarajan's (2015) study, in which it was revealed that content knowledge of the special education teachers meaningfully and directly influences their teaching performance. It is also confirmed in previous studies that general educators only acquired an average level of knowledge about LD (Al-Ahmadi and El keshky, 2019; Kamala and Ramganes, 2013; AlKhateeb, 2007). Alfageer et al. (2018) discovered that the majority of Saudi Arabian educators have some degree of knowledge about ADHD.

This result is contradictory with the study by Burroughs et al. (2019) and Harris and Sass (2011) that emphasized the insignificance of the relationship between the educators' knowledge and the level of their productivity. Blazar (2015) argued that educators' understanding of mathematics negatively affects their performance and the students' achievements.

Furthermore, the need of more intensive and specialized knowledge about LD is warranted for the general educators (Al-Ahmadi and El-Keshky, 2019; Alrubaian, 2014). Specifically, Alfageer et al. (2018) stated that general educators in Saudi Arabia suffer from shortage of information about ADHD. Another terrible result that was revealed by Khalil et al. (2019) confirmed that there is no meaningful relationship between educators' knowledge and their attitudes in both pre- and post-intervention about their understanding of ADHD in the Kingdom of Saudi Arabia. In this respect, Aqeal (2014) stated that there is a huge lapse in the academic courses of Saudi Arabian universities regarding the preparation of the general educators' knowledge and skills of teaching LD students. Likewise, Guerra and Brown (2012) argued that deficiency in the knowledge of the intermediate educators in American schools might have resulted from the failure of higher education in the preparation of middle school educators for special education. Similarly, pre-service and in-service training programmes in Saudi Arabia do not have any specific modules for general educators about LD. This lack of training programmes hinders improvement of the general educators' knowledge. This fact was recently established in a study conducted in the KSA, which referred to the absence of special training courses on LD as the major cause for the lack of educators' knowledge (Al-Ahmadi & El-Keshky, 2019).

Some of the main findings of the previous studies confirmed deficiency of necessary knowledge that is required from the educators. Many studies stress the fact that the level of educators' knowledge is below their expectation (Khalil et al., 2019; Kos, 2008; Musyoka et al., 2017; Alrubaian, 2014; Al-Ahmadi, 2009). Generally, these studies revealed the awareness of the educators on the negative effect of their lack of knowledge on their teaching exercises. More so, additional knowledge about the requirements of the students with special needs positively contributes to the reduction of educators' worries, as that enables them to know the best way of approaching their students (Forlin and Chambers, 2011).

As this current research concentrates on the connection between educators' knowledge and their teaching performance, the differences between the three domains of educators' knowledge have been investigated by Guerra and Brown (2012). The study revealed that there are notable differences in the aspect of educators' knowledge that favoured general knowledge over specific knowledge. In addition, Berry (2001) confirmed the agreement of the general educators on their needs for obtaining general information about the features of the students with disabilities, in order to decide the most effective approach for dealing with such students. Actually, general educators wish to achieve successful inclusion, but extra knowledge and support regarding the issues related with disable students are required.

Importantly, Shulman (1986) made another important additional contribution to the field of educators' knowledge. His theory of pedagogical content knowledge (PCK) defines the relationship between pedagogical knowledge and subject knowledge, and demonstrates how this knowledge should be related to, in order to effectively and thoroughly prepare the teachers. Florian (2012) and Alquraini and Rao (2018) prepared some researches on the academic knowledge of inclusive educators. Both studies applied Shulman's theories of including knowledge as a part of teachers' abilities design. Florian (2012) proposed that further studies should be promoted from theory to practice. So, the current study intends to examine the practice by investigating the connection between educators' knowledge and their performance from a teaching aspect.

The outcome of the testing knowledge model of the current study has proved the questionnaire to be a good measure of educators' knowledge. Thus, good proof of validity has been presented by questionnaire, which signifies the validity and reliability of the findings related to knowledge. According to the second hypothesis, the presumption regarding the teaching experience is the belief that increase in the years of teaching experience positively affects the level of the knowledge, and therefore increases the teaching performance. The results concerning the moderating effect of teaching experience shows that experience has a moderating effect on this study relationship. Nevertheless, no study has ever investigated the moderating effect of experience in the connection between general educators' knowledge about LD and their teaching performance in Saudi Arabia. However, the finding related experience in this study is slightly in accordance with some of previous literature. For instance, the impact of the length of general educators' teaching experience on their teaching is confirmed in some studies such as Aqeal (2014) and Guerra and Brown (2012). Another study discovered that years of experience of the educators in the city meaningfully affect the level of their knowledge about LD.

The outcome of the current research is corresponding with the finding of Alkhatib (2007). Likewise, Kamala and Ramganesh (2013) confirmed the lack of statistically significant variation between the number of general teachers' years of experience and the level of their knowledge about the special education students. In a recent study conducted in Saudi Arabia, it is revealed that there is no big impact of general educators' teaching experience on their level of knowledge and their teaching character. (Khalil et al., 2019). Likewise, it is revealed that there is no relationship between teaching experience and the level of general educators' knowledge about LD in the Kingdom of Saudi Arabia (Al-Ahmadi & El-Keshky, 2019). More so, Kos (2008) indicated less influence of the teaching experience on the educators' knowledge. In summary, this study presents a hypothetically first investigation of the moderating function of teaching experience in this precise connection. Proof of moderator impact is available when the experience increases or reduces the level of the relationship between knowledge and teaching performance. So, regardless of the outcome, the investigation of this moderating variable is important additional information to the Saudi Arabian academic literature.

Conclusion

The study concentrates on the educators' knowledge, due to the fact that general educators cannot successfully teach LD students in an inclusive classroom without proper understanding. Maria (2013) stressed the impossibility of achieving successful inclusion without acquiring necessary knowledge about the inclusion. In view of this evidence, successful inclusion cannot be achieved in the field of education if the educators do not have adequate knowledge about the concepts related to the students with difficulties and general meaning of inclusive practices. Moreover, the knowledge about LD and the characteristics of the students with LD and how they learn must be adequate and comprehensive for all general educators who work with LD thus it cannot be an average or deficient in some aspects because this will definitely affect students learning. Chemutai's study (2015) observed the impact of understanding the nature of the subjects and the principles of the content on the improvement of the teachers' confidence in their teaching.

In other words, accurate type of constructive knowledge positively contributes to the teaching performance of the right type of educators. So, doing justice with LD students will enable them

to be educated in the least restrictive atmosphere. Moreover, more studies are required to be conducted in the field of educators' knowledge and their teaching performance, in order to have deep information about their actual knowledge. Maria (2013) suggested the necessity of displaying a perfect practical example to educators in order to promote the usage of correct incorporating inclusive rules in their teaching.

The result of the current study emphasizes the fact that the Ministry of Education and higher education in Saudi Arabia have not 100% succeeded in the preparation of general educators for inclusive classes in the Kingdom's intermediate schools. Briefly, the result of the current study reveals the existence of a positive influence of educators' knowledge on their teaching performance at (0.34%), which indicates the probability of influencing students' achievements. In this respect, Wenglinsky (2002) emphasized the existence of correlation between the educators' classroom activities and student academic achievement. Remarkably, it shows in this study that general educators in intermediate schools have meaningfully moderated their knowledge in the field of LD, and thus need additional professional development in this field. In the Saudi context, it is commonly known that general educators among the graduates of various departments of the Saudi Arabian educational faculties and colleges are suffering from lack of special education knowledge. This is a result of the fact that these departments do not offer any subjects or courses related to special education. Alharthi and Evans (2017) stressed on the lack of professional improvement for general teachers in Saudi Arabia, which affects the improvement of inclusive activities. Hence, it is not shocking that general educators have insufficient knowledge about LD. For this reason, it is helpful to assess the successful experience of other countries regarding the courses prepared for the general educators' preparation in order to identify the necessary knowledge for the educators. The Ministry of Education together with higher education should establish professional training centres across Saudi Arabian universities, which will be responsible for the general educators' training with the curricula that will ensure the inclusion of necessary LD trainings. Such programmes should also be able to train the educators who have already been employed. This step would produce competent general educators who possess deep knowledge about teaching of LD students. Thus, they will be able to satisfy the needs of all learners in the inclusive classrooms. Al-Mousa (2010) stressed the lack of professionals and resources for the students with special educational needs in the Arab world, which is considered as the main problem of this aspect. In this regard, the improvement of inclusive activities is not as easy as many people may assume (Jordan, Glenn, & McGhie-Richmond, 2010). However, it can be simply accomplished if the educators attain adequate positive knowledge about LD and competency of dealing with the students with LD (Essa and El-Zeftawy, 2015). Nevertheless, this current study attempted to concentrate on this issue. Specifically, this research investigated the hypothesis that increment of the general educators' knowledge in the field of LD would enhance their teaching ability. Actually, the best means of developing this information and its influence on the real teaching activities still requires additional research to support (Ayramidis & Norwich, 2010). Nonetheless, this study uncovers interesting aspects in respect to this relationship which can contribute to the development of inclusive activities in intermediate schools in the Kingdom of Saudi Arabia.

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