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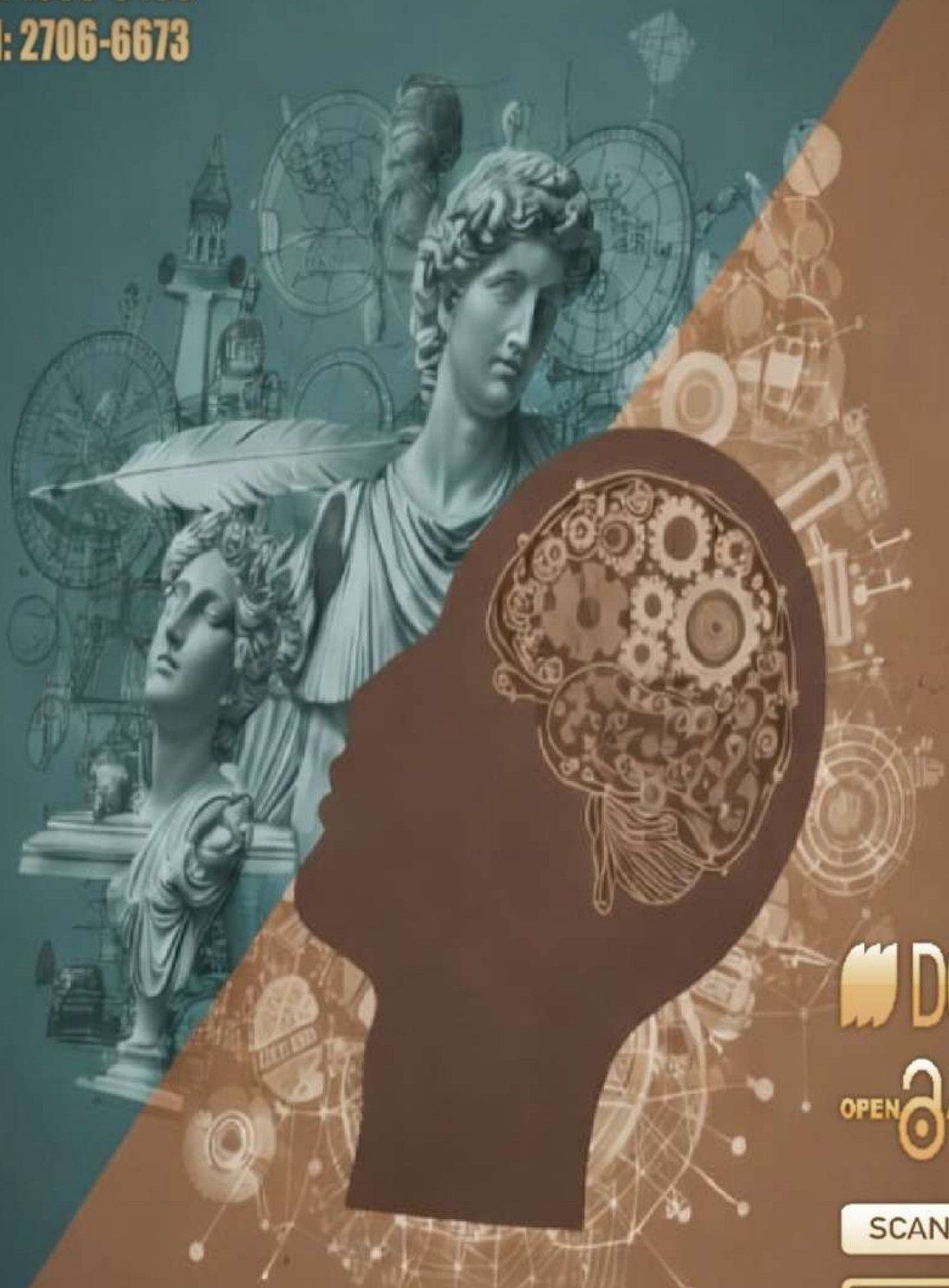

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المجلد الثالث والعشرون- العدد الاول
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مجلة جامعة الأنبار للعلوم الإنسانية

مجلة علمية دورية محكمة فصلية

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بسم الله الرحمن الرحيم

افتتاحية العدد

الحمد لله رب العالمين، والصلاة والسلام على خاتم النبيين سيدنا محمد، وعلى آله وصحبه أجمعين

وبعد...

احبتنا الباحثين حول العالم... نضع بين أيديكم العدد الرابع من مجلتنا (مجلة جامعة الأنبار للعلوم الإنسانية) تلك المجلة الفصلية العلمية المحكمة والتي عن جامعة الانبار والتي تحمل بين ثناياها ١٣ بحثاً علمياً يضم تخصصات المجلة ولمختلف الباحثين من داخل العراق وخارجه ومن مختلف الجامعات.

في هذه البحوث العلمية، نرى جهداً علمياً مميزاً كان مدعاة لنا في هيئة التحرير ان نفخر به وان تلقى هذه البحوث طريقها الى النشر بعد ان تم تحكيمها من أساتذة أكفاء كل في مجال اختصاصه ليتم إخراجها في نهاية المطاف بهذا الشكل العلمي الباهر، والصورة الطيبة الجميلة، والجوهر العلمي الرصين، فجزى الله الجميع خير الجزاء لما أنتجته قرائحهم العلمية والثقافية وسطرته أقلامهم لينتفع ببحوث هذه المجلة والذخيرة العلمية المعروضة فيها كل القارئين من باحثين وطلبة ومهتمين.

إن العطاء الثر من الباحثين والجهد المعطاء من رئيس وأعضاء هيئة التحرير والدعم الكبير من رئاسة جامعة الانبار، وعمادة كلية التربية للعلوم الإنسانية يحث الخطو بنا للوصول إلى الغاية المرجوة المنشودة في دخول مجلتنا ضمن المستوعبات العالمية للنشر العلمي. لذا وجب التنويه بأننا بصدد التحديث المستمر والمتواصل لشروط النشر وآليته للارتقاء بأعداد مجلتنا والوصول بها إلى مكانة علمية أرقى وأسمى تضاهي المجلات العلمية ذات المستويات المتقدمة، ولتساهم بفاعلية في حركة النشر والبحث العلمي العربي سعيا لتعزيز مكانة البحث العلمي وتوسيع آفاقه في البلدان العربية لأن البحث العلمي كان وما يزال واحدا من عوامل رقي الأمم ومؤشرا على تقدمها... ومن الله التوفيق

أ.د. فؤاد محمد فريح
رئيس هيئة التحرير

تعليمات النشر في مجلة جامعة الأنبار للعلوم الإنسانية

- **الاجراءات والمواصفات العامة للبحث:**
- مجلة جامعة الانبار للعلوم الانسانية، مجلة علمية دورية محكمة، لنشر الأبحاث العلمية في مجال العلوم الانسانية الاتية: التاريخ، والجغرافيا، والعلوم التربوية والنفسية وتصدر بواقع ٤ اعداد سنوياً.
- يقدم الباحث على الموقع الالكتروني للمجلة https://juah.uoanbar.edu.iq/ وفق المواصفات الاتية: حجم الورق A 4، وبمسافتين بما في ذلك الحواشي الهوامش والمراجع والجداول والملاحق، وبحواشي واسعة ٢،٥ سم او اكثر اعلى واسفل وعلى جانبي الصفحة .
- يقدم الباحث خطابا مرافقا يفيد ان البحث او ما يشابهه لم يسبق نشره، ولم يقدم لأي جهة اخرى داخل العراق او خارجه، ولحين انتهاء اجراءات البحث.
- يكون الحد الاقصى لعدد صفحات البحث ٢٥ صفحة.
- يكون البحث مكتوبا بلغة سليمة باللغة العربية او اللغة الانكليزية ومطبوع على الالة الحاسبة بخط Simplified Arabicحجم ١٤، على ان يتم تمييز العناوين الرئيسة والفرعية.
- تكتب الهوامش والمراجع وفق نظام APA للتوثيق، بخط حجم ١٤، على ان يتم ترتيبها بالتتابع كما وردت في المتن، ويكون تنظيم المراجع هجائياً حسب المنهجية العلمية المعتمدة وباللغتين العربية والانكليزية.
- تؤول كافة حقوق النشر الى المجلة.
- تعبر البحوث عن اراء مؤلفيها، ولا تعبر بالضرورة عن راي المجلة.
- **بيانات الباحث والملخص:**
- يلزم الباحث بتقديم البيانات الخاصة به وببحثه، وباللغتين العربية والانكليزية، وتشمل الاتي: عنوان البحث، أسماء وعناوين الباحثين، ورقم الهاتف النقال، والبريد الالكتروني، وملخصين – عربي وانكليزي – بحد ادنى ٢٥٠ كلمة يحتويان الكلمات المفتاحية للبحث، والهدف من البحث، والمنهج المتبع بالبحث، وفحوى النتائج التي توصل اليها.
- **ادوات البحث والجداول:**
- اذا استخدم الباحث استبانة او غيرها من ادوات جمع المعلومات، فعلى الباحث ان يقدم نسخة كاملة من تلك الاداة، ان لم يكن قد تم ورودها في صلب البحث او ملاحقه.
- اذا تضمن البحث جداول او اشكال يفضل ان لا يزيد عرضها عن حجم الصفحة A 4، على ان تطبع ضمن المتن.
- يوضع الشكل بعد الفقرة التي يشار اليه فيها مباشرة، ويكون عنوانه في اسفله.
- يوضع الجدول بعد الفقرة التي يشار اليه فيها مباشرة، ويكون عنوانه في اعلاه.
- **تقويم البحوث:**
- تخضع جميع البحوث المرسلة الى المجلة الى فحص اولي من قبل هيئة التحرير لتقرير اهليتها للتحكيم، ويحق لها ان تعتذر عن قبول البحث دون بيان الاسباب.
- جميع عمليات تقويم البحوث الى نظام التعمية المزدوجة لضمان رصانة البحوث والابتعاد عن تضارب المصالح.

- تخضع جميع البحوث للتقويم العلمي بما يضمن رصانتها العلمية، وقد يطلب من الباحث اذا اقتضى الامر مراجعة بحثه لإجراء تعديلات عليه.
- **الوصول المفتوح:**
- متاحة جميع البحوث على موقع المجلة الالكتروني وموقع المجلات الاكاديمية العراقية ضمن سياسة الوصول المفتوح.
- **اجور النشر:**
- يقوم الباحث بتسديد اجور النشر، والبالغة١٥٠،٠٠٠ مائة وخمسة وعشرون الف دينار عراقي للبحوث باللغة العربية، و٧٥.٠٠٠ خمسة وسبعون الف دينار للبحوث باللغة الانكليزية، واذا زادت صفحات البحث عن٢٥ صفحة تضاف٥،٠٠٠ خمسة الاف دينار عراقي عن كل صفحة.
- الباحثون من خارج العراق تنشر نتاجاتهم العلمية مجانا.
- **المراسلات :**
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- **E-mail :** juah@uoanbar.edu.iq

فهرست البحوث المنشورة

بحوث العلوم التربوية والنفسية

بحوث الجغرافية

بحوث التاريخ

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The Suggested UDL-Based Training Model in developing the professional performance of teachers of students with learning difficulties in mathematics

***Assist. Lect. Ameer Hadi Obada**

Al-Qadisiyah Directorate of Education – Iraq

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A B S T R A C T

Aims: This study aimed to design a proposed training program grounded in the principles of Universal Design for Learning (UDL), with the central goal of improving the professional performance of mathematics teachers who instruct students with learning disabilities. ***Methods***: To achieve this aim, the researcher employed a descriptive-analytical approach, which was appropriate for reviewing and synthesizing relevant literature and prior studies to inform the development of the proposed program. ***Results***: Statistical analysis of the data revealed a significant gap between the current instructional practices of mathematics teachers and the actual needs of students with learning disabilities, underscoring the urgent need to enhance teachers' professional competencies in this area. Furthermore, the findings indicated that the proposed program holds considerable potential for raising teachers' awareness of inclusive learning principles and strengthening their capacity to adapt instructional methods. Specifically, it is expected to help teachers diversify the means of representation, expression, and engagement in order to meet the varied needs of students with learning difficulties in mathematics. ***Conclusions***: The study concludes that professional development programs rooted in UDL principles offer a promising and strategic approach for preparing mathematics teachers to work effectively with students with learning disabilities. It recommends empirically testing the proposed program on a sample of teachers to assess its practical effectiveness, integrating UDL principles into teacher preparation curricula within colleges of education, and ensuring sustained institutional support for teachers to implement these strategies in their classrooms.

Keywords: Universal Design for Learning (UDL), professional performance, mathematics teachers, learning disabilities, training programs.

*Corresponding author E-mail : ameerhadi629@gmail.com

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نموذج تدريبي مقترح قائم على مبادئ التصميم الشامل للتعلم (UDL) في تطوير الأداء المهني لمعلمي طلاب ذوي صعوبات التعلم في الرياضيات

م.م. امير هادي عبادة

المديرية العامة لتربية القادسية- العراق

الملخص:

الأهداف: هدفت الدراسة الحالية إلى تصميم وتقديم برنامج تدريبي مقترح يستند إلى مبادئ التصميم الشامل للتعلم (UDL)، بهدف رئيسي هو تعزيز وتحسين الأداء المهني لمعلمي الرياضيات الذين يعملون مع الطلاب ذوي صعوبات التعلم. ***المنهجية***: لتحقيق أهداف الدراسة، اعتمد الباحث على المنهج الوصفي التحليلي، وذلك لملاءمته لطبيعة البحث التي تتطلب تحليل الأدبيات والدراسات السابقة لبناء البرنامج المقترح. **النتائج**: بعد تحليل البيانات احصائيا، اشارت النتائج الى وجود فجوة واضحة بين ممارسات معلمي الرياضيات الحالية والاحتياجات الفعلية للطلاب ذوي صعوبات التعلم، مما يؤكد ضرورة تطوير الكفاءات المهنية للمعلمين في هذا المجال. كما اشارت النتائج الى فعالية البرنامج المقترح وانه يسهم بشكل كبير في تعزيز وعي المعلمين بمبادئ التعلم الشامل، وتعزيز قدرتهم على تكييف أساليب التدريس وتنويع وسائل التمثيل والتعبير والمشاركة، بما يلبي الاحتياجات المتنوعة للطلاب ذوي صعوبات التعلم في مادة الرياضيات. ***الاستنتاجات***: خلصت الدراسة إلى أن برامج التنمية المهنية القائمة على مبادئ التصميم الشامل للتعلم تمثل مدخلاً استراتيجياً واعداً لتأهيل معلمي الرياضيات للتعامل بفعالية مع الطلاب ذوي صعوبات التعلم. وقد أوصت الدراسة بتجريب البرنامج المقترح تطبيقياً على عينة من المعلمين لقياس فاعليته بشكل تجريبي، وإدراج مبادئ UDL في مناهج إعداد المعلمين بكليات التربية، وتوفير الدعم المؤسسي المستمر للمعلمين لتطبيق هذه الاستراتيجيات في مدارسهم.

الكلمات المفتاحية: التصميم الشامل للتعلم (UDL)، الأداء المهني، معلمو الرياضيات، صعوبات التعلم، برامج التدريب.

1.1. **Research Problem:** Mathematics teachers who work with students with learning difficulties encounter numerous challenges in enhancing their professional performance due to the absence of training programs that account for individual differences the UDL principles is Although there is a Widespread international Orientation toward adopting these principles in education, the extent of teachers' awareness of UDL and its

application in professional practices remains unclear within the local context. Accordingly, the research problem can be stated as follows:

- How to apply Universal Design for Learning (UDL) principles to improve the professional practice of mathematics teachers for students with learning disabilities?

1.2. Research Objectives:

1- Literature analysis on UDL and learning difficulties in mathematics.

2- Designing a proposed training program according to appropriate standards

1.3. Significance of the Study

1.3.1. Theoretical Significance

1. enriching the educational literature on teacher professional development in the preparation of teachers working with students with learning disabilities, in the light of the UDL principles as a novel and modern proposal.
2. They offer a springboard of ideas for longer-term research into of UDL-informed provisions in different educational contexts.

1.3.2. Practical Significance

1. It responds to an urgent area of need in teacher education for specialized programmatic training that takes account of the range of competences and needs of teachers, with an ultimate impact on mathematical instruction of students with LLD.
2. It provides decision makers and educational leaders with an example for creating professional development programs that are more far-reaching and accommodating and based on UDL.

1.4. Definition of Terms

1.4.1. Universal Design for Learning (UDL): A scientifically validated framework for guiding educational practices that ensures flexibility in the presentation of information, enabling learner engagement and encouraging the demonstration of knowledge and skills. UDL aims to minimize instructional barriers while providing appropriate supports for all learners, maintaining high expectations for achievement, including students with difficulties and English language learners (Holland, 2022).

Ali (2023) states UDL is an instructional and learning framework that often utilizes the capabilities and flexibility of today's technology to customize learning for all students as much as possible. It's an attempt to make the

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learning process better for all learners by using the science of learning, along with neuroscience, human development and education research. The framework includes a foundation for lesson design, a model for developing goals, methods, materials, and assessments, all of which include everyone. Built upon these principles, UDL is a research-based theory that the individual differences that characterize learners are addressed through its foundation in the learning sciences and brain sciences, and it is organized by three main principles: engagement, representation, and action(expression).

2. Theoretical Framework

2.1. Universal Design for Learning (UDL): Inclusive Education is the process of addressing the diverse needs of all learners by reducing barriers to, and within, the learning environment and by striving to enable all learners to participate in learning, alongside their similar-aged peers, irrespective of age, disability, ethnic origin, gender, language, learning style, race, socio-economic status and other factors. Its purpose is to reduce exclusion from education, for, and within, education by adapting and changing content, approaches, structures and strategies, along a common vision that includes all children at a given age level. Based on the principle that it is the responsibility of the state to educate all children, ensuring equal access to educational services in common settings, valuing difference (UNESCO, 2020).

2.1.2. The UDL Principles: The UDL is a means to help teachers integrate the framework by providing a variety of strategies that can be used across curricular content. It is a resource that is accessible and engaging for all students. This tool is intended to be used by educators, curriculum developers, researchers, parents, and other interested parties in any educational context. Informing the Graphic The content in the graphic represents the best practices according to evidence-based health guidance (Al-Sartawi, 2016).

CAST published the first version of the UDL Guidelines in a graphic organizer format (Version 1.0) in 2008; the subsequent updates are as follows:

- Version 2.0 in 2011
- Version 2.1 in 2014
- Version 2.2 in 2018

(CAST, 2018)

The recent version contains nine guidelines, structured into three principles, which are further broken down into 31 checkpoints as supported by principle-based resource explanations, checklists and toolkits. These principles are not layered hierarchically, instead they are structured in a logical order to be used in designing and delivering a lesson: starting with engaging learners in the lesson and helping them to be successful in that lesson, then presenting content and skills needed in order to meet learning targets, and then moving into activities and tasks where learners can show they are able to understand content and demonstrate skills (UDLA LACOE, 2019).

Table (1) The UDL Principles

Components	Affective Networks	Recognition Networks	Strategic Networks
Access	Providing opportunities for learner interests: ● Supporting learner freedom and independence in learning. ● Including what is relevant, valuable, and meaningful to the learner. ● Reducing fears and external distractions.	Providing options for knowledge: ● Presenting ways of displaying information according to the learner's needs. ● Providing alternatives for presenting auditory information. ● Providing alternatives for presenting visual material.	Providing options for physical performance: ● Allowing diversity in answering questions among learners. ● Facilitating learner access to assistive technologies.

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Construction	Providing opportunities to maintain learner persistence and effort: ● Highlighting learning goals. ● Using diverse learning resources to create challenges that motivate the learner to achieve the learning goal. ● Encouraging collaboration and teamwork. ● Providing feedback.	Providing options for language and symbols: ● Offering alternatives to clarify vocabulary and symbols. ● Explaining how linguistic, mathematical, and graphical sentences are structured. ● Enhancing understanding through different dialects and languages. ● Using multimedia to clarify vocabulary and symbols.	Providing options for expressing fluency: ● Using multiple media for communication. ● Supporting the learner's use of educational content authoring tools. ● Gradually presenting instructions to improve the learner's expressive fluency.
Comprehension	Providing opportunities for self-regulation: ● Supporting the learner's self-expectations toward learning. ● Supporting the learner's self-adjustment to difficulties. ● Developing the learner's self-assessment skills.	Providing options for comprehension: ● Activating prior knowledge and information. ● Presenting information in a processable manner. ● Distinguishing main ideas and important information. ● Supporting learner instruction of the information.	Providing options for performance tasks: ● Guiding the learner to identify the appropriate goal for the task. ● Guiding the learner to plan for task completion. ● Guiding the learner to manage useful information for task completion. ● Supporting the learner in monitoring their progress during task performance.
Goal	High motivation toward learning	Broad awareness and knowledge	Goal-directed learning strategies

The UDL is organized into three progressive tiers: the Access tier, followed by the Build tier, and finally the Internalize tier. It is noteworthy that these tiers represent a gradual

shift in responsibility from the teacher to the learner. The Access tier is fully teacher-directed and is most suitable for novice practitioners. The Build tier requires partial teacher guidance while encouraging learner participation, whereas the Internalize tier is predominantly learner-focused (Al-Tayyar, 2021).

The overarching goal of implementing UDL principles is to develop **expert learners**—individuals prepared for lifelong learning. The emphasis shifts from mere mastery of curriculum content to the acquisition of learning skills. In today's world, where information is readily available and easily accessible, the real challenge no longer lies in obtaining knowledge but in learning how to learn effectively.

Within the UDL framework, each principle is associated with a specific goal aimed at fostering the characteristics of expert learners:

1. Engagement Principle: This principle aims to cultivate learners who are highly motivated, actively invested in their learning, and intrinsically driven to achieve mastery. Such learners set challenging academic goals, demonstrate persistence, maintain sustained effort, and regulate their emotional responses that might otherwise hinder or distract from learning.
2. Representation Principle: The goal here is to enable learners to become resourceful and knowledgeable, capable of activating and applying prior knowledge to organize priorities and comprehend new information. Learners are expected to identify tools and resources for acquiring new knowledge and convert this information into meaningful, usable concepts.
3. Action and Expression Principle: This principle focuses on fostering strategic and goal-directed learners who can devise learning plans, organize resources and tools to facilitate learning, and accurately assess their strengths and areas for improvement (Othman, 2017).

As educators, our objective is not merely to attract learners to the content we present or to ensure they persevere in mastering what we require of them. Instead, we aim to nurture learners with **intrinsic motivation**—individuals who engage in learning activities that hold personal relevance, thereby promoting lifelong learning. In other words, learner engagement should stem from internal drives rather than

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external incentives provided by teachers (Aqeel, 2014).

In scientifically grounded educational settings, multiple strategies can be adopted to foster engagement and enhance learner motivation. These include creating opportunities for learners to connect their interests with learning tasks, sustaining effort and persistence, and promoting self-regulation (Brand & Dalton, 2018, p. 10).

Universal Design for Learning can be applied across all educational stages, from early childhood to higher education. It is adaptable to diverse subjects, curricula, and learning environments, including online learning contexts. A UDL-based learning environment is dynamic, promotes exploration, aligns with learners' interests and preferences, and supports teachers in lesson planning by proactively anticipating students' needs (Nelson & Basham, 2014).

Table (2) Comparison between Teaching According to Universal Design for Learning and Traditional Teaching

Comparison Aspect	Teaching According to the Universal Design for Learning Model	Traditional Teaching
Learner participation and motivation	The learner is active with high participation and motivation	The learner is a recipient of information with low participation and motivation
Presentation and delivery of information	Information is presented in multiple and diverse ways to suit individual differences and the varying needs of learners	Information is presented in a single way for all learners
Learner performance and expression of understanding	Learner performance and understanding are assessed in multiple ways to accommodate individual differences	Learner performance and understanding are assessed in a single way, such as tests

2.1.3. Mathematics Learning Disabilities: Lee-Swanson and Jerman (2006) confirmed that terms such as mathematics learning disabilities, difficulty in solving mathematical problems, and dyscalculia all refer to a general concept encompassing difficulties in computational skills. Dyscalculia refers to a disorder in the ability to learn mathematical concepts and perform related computational operations (Lerner, 2000). In other words, it is a difficulty or inability to carry out basic arithmetic

operations such as addition, subtraction, multiplication, and division, later extending to algebra and geometry. Kosc (1974) coined the term mathematical aphasia to describe this condition (Hafez, 2006).

For the purpose of this study, mathematics learning difficulties will focus on the ability of elementary school students to learn, understand, and recall the four fundamental arithmetic operations.

2.1.4. Types of Mathematics Learning Disabilities: According to previous studies, mathematics learning difficulties can be classified into the following types:

1. Verbal Learning Difficulty: The child struggles to understand mathematical facts or problems presented orally and has difficulty expressing them mathematically.
2. Symbolic Learning Difficulty: Occurs when a child is unable to process sensory information in a symbolic way or otherwise to serve mathematical purposes.
3. Conventional Learning Difficulty: Refers to difficulties in reading mathematical symbols such as numbers, operational signs, and other notations.
4. Written Learning Difficulty: Refers to a child's difficulty in writing mathematical symbols.
5. Conceptual Learning Difficulty: Refers to challenges in understanding mathematical concepts and relationships, as well as performing mental calculations.
6. Procedural Learning Difficulty: Occurs when a child struggles to perform the four basic operations, such as adding instead of subtracting or dividing instead of multiplying (Hafez, 2006).

2.1.5. Causes of Mathematics Learning Disabilities: There are several factors that contribute to students' reluctance to study mathematics and the emergence of learning difficulties. Al-Rayat (2003) categorized these factors into three groups:

- Factors related to the educational system.
- Factors related to the learner.
- Factors related to the prevailing psychological and social context.

Al-Amin (2001) classified the causes of mathematics learning difficulties into:

1. Sensory causes, such as hearing or vision impairments.
2. Cognitive causes, including difficulties in comprehension, attention, or memory weakness.

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3. Psychological causes, such as emotional disturbances, fear, and anxiety.
4. Motivational and social causes related to the surrounding environment.

Al-Hilwani et al. (1998) identified seven primary causes of mathematics learning disabilities:

1. Low intellectual ability in students, including central nervous system dysfunction or damage to the left hemisphere's visual cortex and parietal lobe.
2. Visual perception difficulties and spatial relationship problems.
3. Psychological and social issues that affect learning.
4. Deficits in auditory or visual memory.
5. Limitations in cognitive processing functions, such as quantitative reasoning, inferential and inductive thinking, comparison skills, and attention.
6. Difficulties arising from the learning process itself, including reading and writing problems, lack of foundational skills, language development disorders, ineffective teaching methods, or insufficient understanding of proper problem-solving procedures.

2.1.6. Special Education Teachers from a UDL lens

Teachers have a great responsibility in conceptualizing the philosophy of inclusive education and making it real. The demand for successful inclusive ed has expanded the job responsibilities of both special and regular education teachers. The special education teacher's role has changed from the person who provided instruction to students with difficulties(the primary instructor) to a collaborator serving in an adjunct or consultative role to the regular classroom teacher. On the other hand, the general education teacher is expected to be a key player in instructing students with disabilities, and partake in all services that are meant to support students with difficulties(Al- Muharij, 2020).

The primary teaching models applied in inclusive education schools can be reduced to two models:

1. Co-Teaching: The general education teacher and the special education teacher work together in the classroom. It is thought that the general education teacher has more knowledge of the curriculum content of a particular grade level and the special educator has knowledge related to the disabilities. Collaboration includes planning the curriculum, settling what adaptations and modifications are needed, and employing

diverse methodologies for class management and enhancing performance (Al-Muqaitib, 2016)

2. Differentiated Instruction: Programs that focus on developing and delivering instruction that is specific to an individual's learning needs. Some students also need their plans for special education (IEPs) to relearn some knowledge of general curricula that cannot be realized by teaching alone. This personalization of instruction also forms the foundation of special education (Akhder, 2017).

2.1.7. Universal Design for Learning (UDL) and Its Relevance to Teaching Students with Growth in an era of hyper- diversity and inclusivity at both the national and global levels has continued along a collision course (Rose, Meyer, & Hitchcock, 2005).

Universal Design for Learning (UDL) is an instructional approach that is intended to address the needs of diverse learners, including those with mathematics LD. This model values teachers' professionalism in flexible and non-excluding teaching strategies.

UDL to Teach Students with LDs:

1. Creating Flexible Learning Environments: UDL encourages flexible learning environments that address student needs that may result from individual differences.
2. Varied Means of Instruction: UDL promotes the use of various ways to display mathematical content to make it accessible to students with difficulties in learning.
3. Increasing Participation and Motivation: Leveraging UDL helps stimulate students who have learning difficulties to engage with instruction and tasks, promoting internal motivation for learning (Hall et al., 2014).

2.1.8. Developing Teachers' Professional Performance through UDL

1. Continuous Professional Development: Ongoing training is essential for effectively applying UDL principles, as it helps teachers develop the skills needed to address the needs of students with learning disabilities.
2. Collaboration among Teachers: UDL promotes collaboration between general and special education teachers to deliver comprehensive and inclusive instruction.
3. Integration of Assistive Technology: Incorporating technology based on UDL principles provides tools that support mathematics

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learning for students with difficulties (CAST, 2018, p. 12).

2.2. Previous Studies

- **Khamis (2020):** Investigated mechanisms for developing kindergarten environments as an entry point to achieve educational inclusion for students with special needs in light of UDL principles. The study adopted a descriptive approach and utilized questionnaires to determine teachers' acceptance of these mechanisms, concluding with recommendations to prepare kindergarten environments for full inclusion.
- **Al-Buzayd (2021):** Discussed the concept of inclusive virtual learning environments based on UDL principles and proposed a framework for integrating technology into digital curricula using models such as TPACK and SAMR to support learning for all students, including those with disabilities.
- **Al-Saleem (2021):** Aimed to determine the extent to which UDL standards are present in the teaching performance of inclusive education teachers in Riyadh. Using an observation checklist of 27 criteria, the results indicated a very low (non-existent) level of implementation.
- **Al-Buzayd (2022):** Compared legislative frameworks supporting UDL in Saudi Arabia and the United States, highlighting similarities and differences in policies that facilitate educational inclusion.
- **Al-Murshid et al. (2022):** Conducted a systematic review on the impact of UDL on academic and non-academic performance of students with and without difficultiesat the elementary level, analyzing studies published between 2013 and 2022. Results confirmed the positive influence of UDL principles.

3. **Al-Mutairi (2023):** Examined UDL applications in teaching students with learning disabilities, emphasizing its key components and importance in creating flexible learning environments, and recommended training teachers on incorporating these principles into instruction.

3. Research Procedures: To achieve the objectives of this study, the researcher followed the following steps:

1. To offer theoretical frameworks for previous research and literature on UDL principles and teaching proficiency for students with learning disabilities.

2. It would be interesting to analyze also the theoretical background of the UDL principles and the pedagogical practices that have inspired UDL to establish the criteria that the model to-be-constructed should consider.
3. A review of the existing literature, research and official documents about the teaching of mathematics to students with LDs in an attempt to provide a basis for understanding the training needs of the teachers.
4. Develop conceptualization of the new intervention based on UDL and its components, intervention units, activity frames.

3.1. Program Design: The program was designed to improve the teaching performance of teachers struggling with students having mathematics learning difficulties(LD) using UDL principles. The role, model of design The design structure followed deliberate steps of alignment of instructional content from the context of the learner's, as follows:

1. Literature Review A review of previous research: A review of research in professional development for teachers in the area of education for students with learning disabilities, UDL application.
2. DEFINITION OF THE BASES AND OBJECTIVES Foundations and objectives of the program Theoretical basis: Justification for the program This is to provide the program with an adequate theoretical basis, and to determine general and operational objectives to be met, according to the needs of the teachers in increasing their students' level in mathematics, for students with disruption.
3. Content of program: Design the list of skills and instructional strategies that you place into the program that are targeted toward the way each student learns and addresses the universality of learning as you plan accordingly that is consistent with UDL principles.
4. Designing a program plan: Structuring a timeline of activities and targeted training units to enable the practical application of UDL elements and the support of teachers' professional competencies.
5. Designing learning content and method: You may have to have variety of learning styles, including the use of brain-based or interactive strategies and multimedia or problem-based learning.

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6. Training and enrichment: Creation of practical exercises with lesson simulations, interactive work sheets, and in-classroom activities based on informative design guided by UDL.
7. Finding resources and tools: Incorporating a range of literacy resources and tools: digital, aural, visual and interactive to support multiple approaches to foster learning for a variety of learners.
8. Setting-Up of the AM: Creating several assessment instruments to measure how effective the program has been and the improvement of teachers' teaching performance in teaching students with LD.
9. Validation and review of the program: Presenting the program to experts in the field and experienced teachers to scientifically review and refine it for professional standard, UDL principles.

3.2. Fundamental Principles for Program Design:

1. These principles are: Tell or show explicit knowledge Scenery-setting poke the brain & emotional hooks Encourage long-lasting learning perspective Labels for phenomena Change context and application teachers' professional performance (McLaren et al., 2017).
2. Thorough understanding of math content and how students with learning difficulties learn it.
3. Employing various modes of communication, verbal and non-verbal, to address pupil s needs.
4. Adopting inquiry-, research- and hands on experimental learner-centered approaches.
5. Utilizing a variety of teaching techniques that promote creativity, innovation, 106 and problem-solving in teachers and students.
6. Supporting life-long learning by enhancing the expertise of teachers in their content(s) and pedagogical practice.
7. Allowing for regular engagement in professional development programs.
8. Talking straight about the reality of today's schools, and the solutions teachers need to teach effectively.

(Eckman et al., 2016).

3.3Procedures and processes for Professional Development based on UDL for teachers

1. Delivering hands-on UDL workshop in the teaching of mathematics to students with LD.
2. Using teacher led professional portfolios such as those consisting of worksheets, activities, and classroom applications.
3. Close supervision and follow-up to coordinate teachers' practices with the content of the curriculum and the learning needs of students.
4. Marketing new work and research that is being done to develop UDL practices.
5. Developing classroom-based, interactive activities that are sensitive to students#39;i varied abilities and are aligned to mathematics content standards.
6. Conducting conferences and workshops where teachers can share experiences and foster innovations in teaching students with learning disabilities.

4.Results: The designed plan included the necessary requirements in relation to developing teachers 'professional practice and at the same time meeting the requirements of students with learning disabilities. The program involved establishing the required groundwork and creating the implementation protocols aligned with Universal Design for Learning (UDL) principles, as described below:

1. Program Design: An initial program design was then created, which was informed by:

   (a) previous work in the area of mathematics instruction for students with LD

   (b) a review of educational literature that focuses on teaching students with LD

   (c) international efforts in math education, and (d) best practices for designing programs.

2. Philosophy of the program: The program philosophy centers on the teachers' learning of

   (a) innovative methods related to science

   (b) best practices within the context of teaching, and the students' understanding the significance of mathematics and its applications in their lives with learning disabilities.

3. General Objective: The overall purpose is underpinned by the following sub-objectives:

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- Integration of theory and practice in mathematics teaching.
- Developing the teachers cognitive and creative competencies to facilitate active learning.
- Addressing teachers' desire to be able to flexibly practice instructional strategies for all students.
- To develop the abilities of teachers through using educational tool and technology in classroom.

4.Objectives of the programmer:

- Introducing Teachers to UDL and its Use in Math Instruction.
- Conceptualizing the philosophy of teaching students with learning difficulties and UDL application.
- Connecting Math Instruction to the Real World of the LD Student.
- Revise topics and activities of instruction using UDL concepts.
- Designing instruction that engages students in experiments, research and inquiry, engineering design, creative problem solving, and scientific thinking.
- Use UDL when designing lessons by making everyday class accessible to all students.

5. Content of the Proposed Training Program: The training program content was selected in alignment with the general and specific objectives while adhering to UDL principles. The content is characterized by:

- Relevance to objectives: Supporting the achievement of the program goals for teachers and students with learning disabilities.
- Comprehensiveness: Covering prior and current experience requirements, as well as academic and professional skills to be developed.
- Flexibility and diversity: Allowing for adaptation and development according to the abilities of teachers and students.
- Structured organization in training units: The training experiences and content were organized into a single training module with a total of 22 training hours, including integrated practical and applied activities for implementing UDL principles in the classroom.
-

Table (3) Content of the Proposed Training Program

No.	Training Units	Time	Number of Sessions
1	Essence of Universal Design for Learning	2 hours	1 session
2	Learner participation and motivation stimulation	4 hours	2 sessions
3	Presentation and delivery of information	4 hours	2 sessions
4	Learner performance and expression of understanding	4 hours	2 sessions
5	Technology supporting Universal Design for Learning in digital learning environments	4 hours	2 sessions
6	Planning lessons designed according to Universal Design for Learning	4 hours	2 sessions

4.2. Evaluation Methods of the Proposed Training Program: The evaluation process plays a fundamental role in planning and implementing the training program to ensure the achievement of its objectives in line with Universal Design for Learning (UDL) principles. The evaluation methods include:

- Personal Interviews and Oral Questions to assess teachers' understanding and their ability to apply inclusive learning strategies.
- Self-Assessment by Teachers using a pre-designed model based on specific standards to support professional practice.
- Pre-Test to determine teachers' prior knowledge and experience regarding the program content.
- Post-Test to measure the extent of teachers' benefit and their application of inclusive teaching skills according to UDL principles.

4.3. Validation of the Proposed Training Program: The program was reviewed by a panel of experts in curriculum and teaching methods to ensure:

1. The appropriateness, clarity, and comprehensiveness of the program objectives and their feasibility.
2. Alignment of teaching strategies and methods with the program's objectives.

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3. Organization of the content and training units to serve the intended goals.
4. Suitability of the activities and instructional resources for supporting inclusive learning.
5. the evaluation tools in accurately measuring outcomes.

5. Recommendations

1. Calling for a pilot program on a sample of mathematics teachers at a specific stage,
2. The importance of introducing UDL principles into teacher preparation and in-service training programs,
3. Suggesting future studies that measure the program's impact on teacher performance or the achievement of students with learning difficulties in mathematics.

6. Suggestions : In light of the results, the researcher suggests the following future studies:

1. Designing a comprehensive training package to empower mathematics teachers with flexible teaching strategies aligned with Universal Design for Learning (UDL) standards for addressing learning difficulties.
2. Integrating critical thinking and innovation skills into classroom practices through Universal Design for Learning (UDL) applications.
3. Developing a training model that enhances teachers' ability to anticipate diverse learner needs and design proactive and flexible learning environments.
4. Developing an online platform to evaluate teachers' practices and monitor their professional development based on UDL indicators.

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In the name of God, the Most Gracious, The Most Merciful

Editorial of the issue

Praise be to God, Lord of the Worlds, and may blessings and peace be upon the Seal of the Prophets, our Master Muhammad, and upon all his family and companions.

Dear researchers around the globe, it is our pleasure to announce the first issue for the year 2026 of our scientific journal (Journal of University of Anbar for Humanities) (JUAH), the peer-reviewed quarterly scientific journal. This issue contains 13 scientific paper that include the journal's specialties for researchers from the University of Anbar and other Iraqi universities. It also contains international scientific papers. In these scientific research, you would find scientific effort that we in the editorial board should be proud of. These researches found its way to publication after being peer-reviewed by qualified professors, each in his field of specialization.

The generous contribution of researchers, the generous effort of the Editor in Chief and members of the Editorial Board, and the great support from the presidency of University Of Anbar and the deanship of College of Education for Humanities encourage us to take steps to reach the looked-for aim of indexing our journal in the largest abstract and citation database (Scopus). Therefore, it must be noted that we are in the process of continuously updating the publishing procedures in order to improve the journal and bring it to a higher scientific status. Furthermore, our future aim to contribute effectively to the Arab publishing and scientific research movement in order to enhance the status of the scientific research and expand its horizons in Arab countries because we believe that the scientific research is one of the factors in the progress of the nations and is an indicator of its progress.

Prof. Dr. Fuaad Mohammed Freh
Editor in Chief

Publication Guidelines of the *Journal of University of Anbar for Humanities (JUAH)*

General Procedures and Research Specifications

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Research Tools, Tables, and Figures

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- Tables and figures should not exceed the width of an A4 page and must be embedded within the text.
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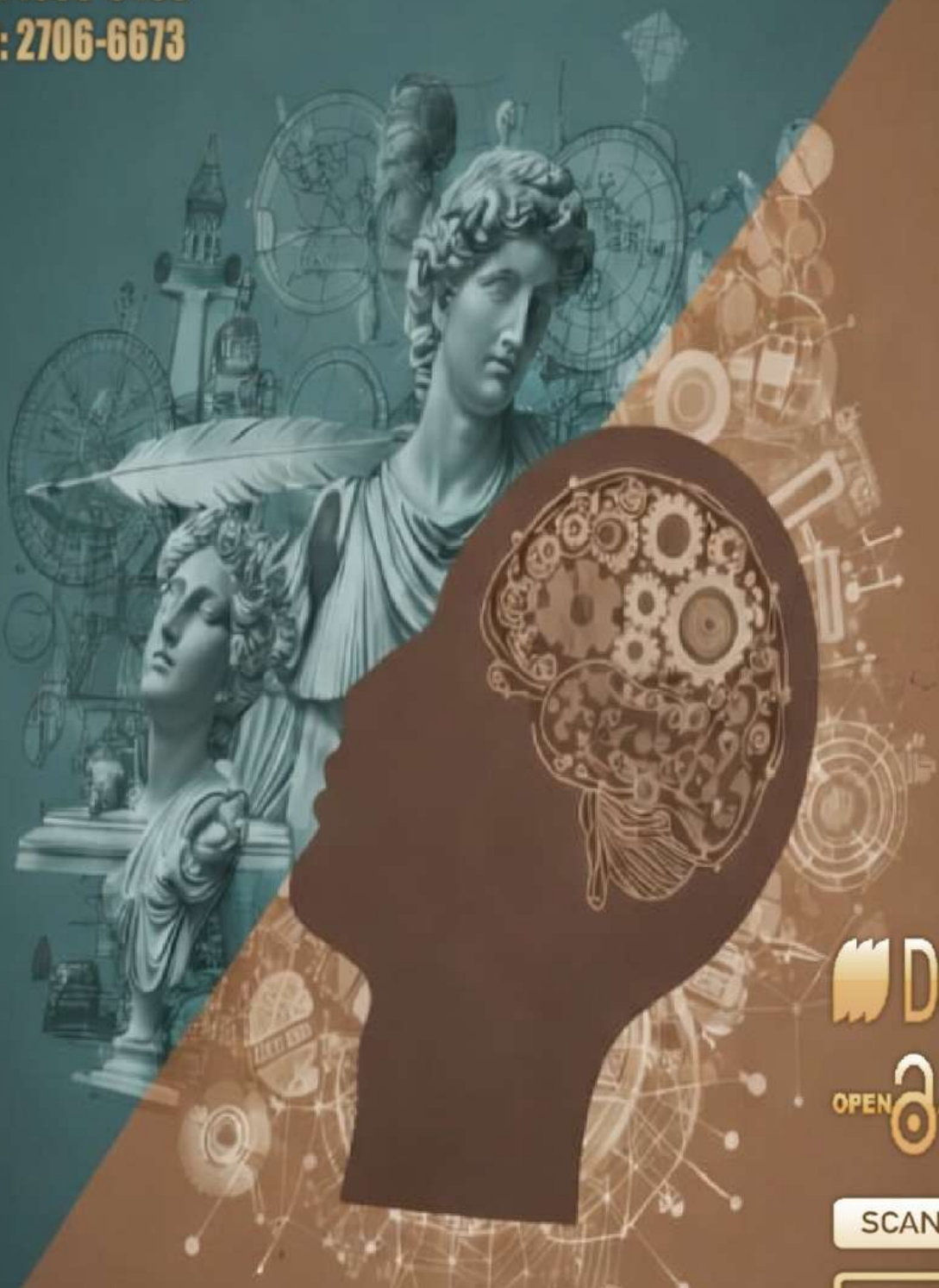

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