



الجامعة الإسلامية بالمدينة المنورة
ISLAMIC UNIVERSITY OF MADINAH

مَجَلَّةُ الْجَامِعَةِ الْإِسْلَامِيَّةِ لِلْعُلُومِ التَّرْبَوِيَّةِ وَالْإِجْتِمَاعِيَّةِ

مَجَلَّةٌ عَامِّيَّةٌ دَوْرِيَّةٌ مُحَكَّمَةٌ

تصدر أربع مرات في العام خلال الأشهر:

(مارس، يونيو، سبتمبر، ديسمبر)

العدد 23 - المجلد 43

ربيع الأول 1447 هـ - سبتمبر 2025 م

معلومات الإيداع في مكتبة الملك فهد الوطنية

النسخة الورقية :

رقم الإيداع: 1441/7131

تاريخ الإيداع: 1441/06/18

رقم ردمد : 1658-8509

النسخة الإلكترونية :

رقم الإيداع: 1441/7129

تاريخ الإيداع: 1441/06/18

رقم ردمد : 1658-8495

الموقع الإلكتروني للمجلة :

<https://journals.iu.edu.sa/ESS>



البريد الإلكتروني للمجلة :

ترسل البحوث باسم رئيس تحرير المجلة

iujourna14@iu.edu.sa

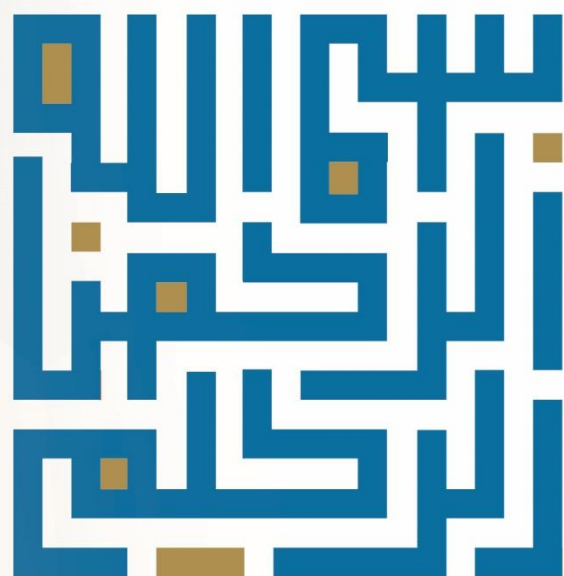




الجامعة الإسلامية بالمدينة المنورة
ISLAMIC UNIVERSITY OF MADINAH

البحوث المنشورة في المجلة
تعبر عن آراء الباحثين ولا تعبر
بالضرورة عن رأي المجلة

جميع حقوق الطبع محفوظة
للجامعة الإسلامية



قواعد وضوابط النشر في المجلة

أن يتسم البحث بالأصالة والجدية والابتكار والإضافة المعرفية في التخصص.

لم يسبق للباحث نشر بحثه.

أن لا يكون مستلماً من أطروحة الدكتوراه أو الماجستير سواء بنظام الرسالة أو المشروع البحثي أو المقررات.

أن يلتزم الباحث بالأمانة العلمية.

أن تراعى فيه منهجية البحث العلمي وقواعده.

أن لا تتجاوز نسبة الاقتباس في البحوث التربوية (25%)، وفي غيرها من التخصصات الاجتماعية لا تتجاوز (40%).

أن لا يتجاوز مجموع كلمات البحث (12000) كلمة بما في ذلك الملخصين العربي والإنجليزي وقائمة المراجع.

لا يحق للباحث إعادة نشر بحثه المقبول للنشر في المجلة إلا بعد إذن كتابي من رئيس هيئة تحرير المجلة.

أسلوب التوثيق المعتمد في المجلة هو نظام جمعية علم النفس الأمريكية (APA) الإصدار السابع، وفي الدراسات التاريخية نظام شيكاغو.

أن يشمل البحث على : صفحة عنوان البحث، ومستخلص باللغتين العربية والإنجليزية، ومقدمة، وطلب البحث، وخاتمة تتضمن النتائج والتوصيات، وثبت المصادر والمراجع، والملاحق اللازمة مثل: أدوات البحث، والموافقات للتطبيق على العينات وغيرها؛ إن وجدت.

أن يلتزم الباحث بترجمة المصادر العربية إلى اللغة الإنجليزية.

يرسل الباحث بحثه إلى المجلة إلكترونياً ، بصيغة (WORD) وبصيغة (PDF) ويرفق تعهداً خطياً بأن البحث لم يسبق نشره ، وأنه غير مقدم للنشر، ولن يقدم للنشر في جهة أخرى حتى تنتهي إجراءات تحكيمه في المجلة.

المجلة لا تفرض رسوماً للنشر.



الهيئة الاستشارية :

معالي أ.د : محمد بن عبدالله آل ناجي

رئيس جامعة حفر الباطن سابقاً

معالي أ.د : سعيد بن عمر آل عمر

رئيس جامعة الحدود الشمالية سابقاً

معالي د : حسام بن عبدالوهاب زمان

رئيس هيئة تقويم التعليم والتدريب سابقاً

أ. د : سليمان بن محمد البلوشي

عميد كلية التربية بجامعة السلطان قابوس سابقاً

أ. د : خالد بن حامد الحازمي

أستاذ التربية الإسلامية بالجامعة الإسلامية سابقاً

أ. د : سعيد بن فالح المغامسي

أستاذ الإدارة التربوية بالجامعة الإسلامية سابقاً

أ. د : عبدالله بن ناصر الوليعي

أستاذ الجغرافيا بجامعة الملك سعود

أ.د. محمد بن يوسف عفيفي

أستاذ أصول التربية بالجامعة الإسلامية سابقاً



هيئة التحرير:

رئيس التحرير :

أ.د : عبدالرحمن بن علي الجهني

أستاذ أصول التربية بالجامعة الإسلامية في المدينة المنورة

مدير التحرير :

أ.د : محمد بن جزاء بجاد الحربي

أستاذ أصول التربية بالجامعة الإسلامية في المدينة المنورة

أعضاء التحرير:

معالي أ.د : راتب بن سلامة السعود

وزير التعليم العالي الأردني سابقا
وأستاذ السياسات والقيادة التربوية بالجامعة الأردنية

أ.د : محمد بن إبراهيم الدغيري

وكيل جامعة شقراء للدراسات العليا والبحث العلمي
وأستاذ الجغرافيا الاقتصادية بجامعة القصيم

أ.د : علي بن حسن الأحمد

أستاذ المناهج وطرق التدريس بالجامعة الإسلامية في المدينة المنورة

أ.د. أحمد بن محمد النشوان

أستاذ المناهج وتطوير العلوم بجامعة الإمام محمد بن سعود الإسلامية

أ.د. صبحي بن سعيد الحارثي

أستاذ علم النفس بجامعة أم القرى

أ.د. حمدي أحمد بن عبدالعزيز أحمد

عميد كلية التعليم الإلكتروني
وأستاذ المناهج وتصميم التعليم بجامعة حمدان الذكية بدبي

أ.د. أشرف بن محمد عبد الحميد

أستاذ ورئيس قسم الصحة النفسية بجامعة الزقازيق بمصر

د : رجاء بن عتيق المعيلي الحربي

أستاذ التاريخ الحديث والمعاصر المشارك بالجامعة الإسلامية في المدينة المنورة

د. منصور بن سعد فرغل

أستاذ الإدارة التربوية المشارك بالجامعة الإسلامية في المدينة المنورة

الإخراج والتنفيذ الفني:

م. محمد بن حسن الشريف

التسيق العلمي:

أ. محمد بن سعد الشال

سكرتارية التحرير:

أ. أحمد شفاق بن حامد

أ. علي بن صلاح المجبري

أ. أسامة بن خالد القماطي



الجامعة الإسلامية بالمدينة المنورة
ISLAMIC UNIVERSITY OF MADINAH

فهرس المحتويات :

م	عنوان البحث	الصفحة
1	إجراءات تفعيل البحث النوعي في التخصصات التربوية ببرامج الدراسات العليا في الجامعات السعودية من وجهة نظر أعضاء هيئة التدريس د. صالح بن سالم العمري	11
2	الفروق في الإبداع الانفعالي في ضوء بعض المتغيرات الديمغرافية (الدرجة العلمية - الجنسية) لدى أصحاب الاختراعات بجامعة الإمام محمد بن سعود الإسلامية د. سوسن بنت عبد الكريم المؤمن	61
3	فاعلية استراتيجية التعلم المقلوب لتدريس وحدة مهارات التفكير بمقرر المهارات الجامعية لتنمية التحصيل المعرفي والانخراط في التعلم لدى طلاب الجامعة الإسلامية د. تركي بن مقعد مطلق الروقي	99
4	استقلالية الجامعات السعودية في ضوء نظام الجامعات الجديد من وجهة نظر القيادات الأكاديمية (استراتيجية مقترحة) د. فوزية بنت عبد الرحمن بن سالم باناعمه	149
5	واقع برامج التطور المهني في تجويد الممارسات البنائية لدى معلمات علوم المرحلة المتوسطة بمدينة الرياض أ.د. فهد بن سليمان الشايع / أ. نورة بنت مساعد العتيبي / أ. هلا بنت سليمان الشايع	199
6	جودة الحياة وعلاقتها بالكفاءة الذاتية المدركة لدى عينة من أمهات الأشخاص ذوي الإعاقات النمائية د. ريم بنت محمود غريب	243
7	Self-Determination Theory and Motivation in Learning: A Meta-Analysis د. بسمة بنت علي أبوغرارة	291
8	The Impact of a Teachers Training Program to Enhance Professional Development in Science and English Language Teachers in the Kingdom of Saudi Arabia د. ندى بنت حميد حسين الحجري / د. علياء بنت عمر علي المروعي	323
9	الدور الريادي للملكة العربية السعودية في مجال الأعمال الإغائية الإنسانية والتنمية: دراسة في الجغرافيا السياسية د. سمية بنت مشرف بن عبد الله العمري	347
10	رسالة الهاشمي والكندي في الجدل بين الاسلام والنصرانية: إعادة تقييم لتاريخية الشخصيتين وأصالة النص د. عوض بن عبد الله بن سعد بن ناحي	385

* ترتيب الأبحاث حسب تاريخ ورودها للمجلة مع مراعاة تنوع التخصصات



جامعة المدينة الإسلامية
ISLAMIC UNIVERSITY OF MADINAH

**The Impact of a Teachers Training Program
to Enhance Professional Development in
Science and English Language Teachers in
the Kingdom of Saudi Arabia**

**أثر برنامج تدريب المعلمين على تعزيز
التنمية المهنية لمعلمي العلوم واللغة
الإنجليزية في المملكة العربية السعودية**

إعداد

د. علياء بنت عمر علي المروعي

أستاذ المناهج وطرق التدريس اللغة الإنجليزية
المساعد

قسم مناهج وطرق تدريس اللغة الإنجليزية
كلية التربية - جامعة أم القرى

Dr. Alyaa Omar Ali Almarwaey

Assistant Professor of English Language
Curriculum and Teaching Methods

Department of English Curriculum and
Instruction - College of Education - Umm
Al-Qura University

Email: aomarwaey@uqu.edu.sa

د. ندى بنت حميد حسين الحججي

أستاذ المناهج وطرق التدريس
المساعد

قسم العلوم التربوية - الكلية الجامعية بتره
جامعة الطائف

Dr. Nada Humaied Husain Al-Hyjji

Assistant Professor of Curriculum and
Teaching Methods

Department of Educational Sciences -
University College of Turubah - Taif
University

Email: zNada.s@tu.edu.sa

DOI:10.36046/2162-000-023-008

تاريخ القبول: ٢٠٢٤/١١/٢٩ م

تاريخ التقديم: ٢٠٢٤/١٠/٢٩ م

Abstract

The Professional Teaching Training Program enhances the skills and competencies of educators through structured learning experiences that target educational strategies, critical thinking, and content knowledge. This study aims to assess the impact of the Teachers professional training program on the development of information awareness thinking and systemic thinking among English Language and Science teachers in Saudi Arabia. According to Vision 2030, which focuses on economic and educational reforms, this research investigates how focused professional development can enhance teaching efficacy. By employing a quantitative, Qausi-Experimental design, this study enlisted sixty female teachers, half of whom were English language teachers and the other half were science teachers. The study incorporated online sessions of a ten-day training program, which commenced on 22nd July and lasted till 28th July. The training lasted twenty-five hours, with daily sessions lasting for two and a half hours, which included assessment of interactions between teacher-student and teacher training methods. The results of this research demonstrated that the training program has significantly improved teachers' competencies in information awareness and systemic thinking skills. Further analysis of the data revealed notable improvements in English and Science teachers, highlighting the efficacy of the training program in promoting these crucial professional skills and demonstrating a positive correlation between enhanced teaching practices and the training.

Keywords: Professional training, Awareness thinking, Systematic thinking, Professional skills, English and Science teachers

المستخلص

يعزز برنامج التدريب الاحترافي مهارات المعلمين وكفاءاتهم التربوية من خلال التجارب التعليمية المنظمة والتفكير الناقد والمحتوى المعرفي. تهدف هذه الدراسة إلى تقييم أثر برنامج تدريب المعلمين الاحترافي القائم على تطوير الوعي المعلوماتي والتفكير المنطومي بين معلمي اللغة الإنجليزية ومعلمي العلوم في المملكة العربية السعودية في ظل رؤية ٢٠٣٠ التي تركز على التنمية الاقتصادية والتربوية بطريقة تعزز عملية التطوير المهني وكفاءة التدريس. تم استخدام منهجية التصميم التجريبي الكمي، حيث شملت هذه الدراسة ستين معلمة، نصفهن من معلمات اللغة الإنجليزية والنصف الآخر من معلمات العلوم. تضمنت الدراسة جلسات عبر الإنترنت لبرنامج تدريبي مدته عشرة أيام، بدأ في ٢٢ يوليو واستمر حتى ٢٨ يوليو. استمر التدريب لمدة خمس وعشرين ساعة، مع جلسات يومية استمرت لمدة ساعتين ونصف، والتي تضمنت تقييم التفاعلات بين المعلم والطالب وطرق تدريب المعلمين. أظهرت نتائج هذه الدراسة أن برنامج التدريب قد أدى إلى تحسن كبير في كفاءات المعلمين في مهارات الوعي المعلوماتي والتفكير المنطومي. وأظهر التحليل الإضافي للبيانات تحسناً ملحوظة في معلمي اللغة الإنجليزية والعلوم، مما يسלט الضوء على فعالية برنامج التدريب الاحترافي في تعزيز هذه المهارات المهنية اللازمة وإظهار وجود علاقة إيجابية بين ممارسات التدريس المحسنة والتدريب الاحترافي.

الكلمات المفتاحية: التدريب الاحترافي، الوعي المعلوماتي، التفكير المنطومي، المهارات

المهنية، معلمي اللغة الإنجليزية والعلوم

Introduction.

Learning largely depends on effective teaching that determines the quality of education, which depends upon the consistent professional development opportunities that are available for the teachers. Professional development and the effectiveness of the teachers have a combined positive impact on progressive learning patterns (Alkaabi, 2023) .

The quest for excellence in education is an essential factor for national development. To achieve educational excellence certain parameters are taken by the stakeholders and they try to impart professional skills in teachers and support staff in academia.

Professional development is training, educating, or developing a skill that is incorporated into the progression of an individual's profession. This ranges from keeping conversant with the contemporary practices and strategies in the respective fields, learning new skills, and progressing further. This professional development when incorporated into the context of education, plays a vital part in executing successful educational programs and guiding students towards the right direction (Smith & Gillespie, 2023). Effective programs of professional development integrate several components to address the dynamic nature of education and the distinct needs of teachers. Among those components, systemic thinking and information awareness thinking are acknowledged as vital skills for contemporary teachers (Joseph & Uzundu, 2024) .

Systemic thinking incorporates the addressing and comprehension of the interrelated components of the educational system, which is significant for resolving intricate issues and incorporating efficient changes (El, 2023). Professional development programs that encourage systemic thinking skills help teachers in analyzing pedagogical issues, incorporating effective changes, and enhancing the systemic process within the institutes. This often involves training on methodologies of systemic thinking, change management strategies, and adopting various techniques of problem-solving (Smith & Gillespie, 2023) .

On the in contrast, information awareness thinking capability of efficiently gathering, interpreting, and applying information to enhance decision-making skills as well as the skills of teaching practices (Sims et al., 2023). Effective programs of professional development often prioritize the development of these skills, as they equip the teachers to adjust to the changing environments of the education system and incorporate evidence-based practices. Similarly, effective professional development programs include certain components in the program that aids in developing teachers' skills of information awareness by providing them with methodologies on

educational research, data analysis training, and the application of technology to utilize and access information (Yan, 2023) .

The educational sector of the Kingdom of Saudi Arabia is experiencing notable changes under the initiative of Vision 2030. This deliberate structure emphasizes educational reforms and economic diversification as core components for national growth (Alharbi, 2018). Vision 2030 emphasizes the need for a teaching workforce that is highly capable and skilled in meeting the standards of present-day challenges of the educational sector so that student outcomes can be improved. Hence, programs for professional development are essential to support teachers in the adoption of contemporary practices of teaching and improving the teachers' instructional effectiveness (Allmnakrah & Evers, 2019.)

The existing literature highlights the vital role of PD in improving the effectiveness of teaching and student outcomes (Ventista & Brown, 2023). Effective programs of professional development are defined by their consistency with teachers' needs, sustained duration, and learning opportunities (Zhang et al., 2024). This research supports the concept of well-designed programs of professional development that significantly enhance the competencies of teachers by incorporating information awareness thinking and systemic thinking. As the system of education continues to grow, specifically with regard to initiatives like that of Vision 2030, where the need for focused and efficient professional development remains on top .

This research paper explores the impact that teachers' professional training programs has enhancing the professional skills among the English Language and Science teachers in the Kingdom of Saudi Arabia. By evaluating the improvements in the teachers' instructional practices and skills, this paper provided insights into the efficiency of professional development in improving teaching quality and supporting the goals set by Vision 2030 (Mohiuddin et al., 2023).

As per the requirements of Vision 2030, a professional development program for the teachers was designed to enhance the competencies and skills of the teachers through experiences of structured learning which focused on enhancing critical thinking, specific-subject knowledge and educational techniques (Masters, 2023). Training and development programs like these are essential in providing teachers with necessary tools for adaptation to the increasing demands of the education system and promoting an environment favorable for the success of students .

The outcome of PD initiatives like these is specifically reflected in foundational subjects like English language and Science that play a significant role in students' academic success . Efficient training programs

significantly enhance teaching skills, the ability to get the students engaged in class, and the teachers' content knowledge thereby improving the overall quality of teaching (Sims et al., 2023). Teachers who were observed participating in the professional development of high-quality were better at addressing the needs of a diverse classroom, incorporating new strategies for education, and providing the students with a more efficient learning environment (Hottie, 2009)

In the digital era, the ability to think systematically and sustain information awareness is essential for teachers, as they encounter several complex challenges in the field of education. The skills developed through the program of PD would empower teachers to make well-versed decisions, progressively modify their teaching practices, and eventually improve the outcomes of student learning.

Significance of Professional Development.

Several reasons make professional development essential for the enhancement of the education sector. It ensures that the teachers have updated knowledge regarding the latest progress in the methods of teaching, educational technologies, and standards of the curriculum (Sims et al., 2023). The sector of education is evolving rapidly and to cope with the evolution, the teachers need to be professionally developed as it helps them remain updated with innovative approaches and ongoing teaching practices, hence, ultimately improving their ability to deliver instructions of high quality (Yan, 2023). Moreover, professional development aids in encouraging teachers' contemplative practices, empowering them to be able to refine and assess their methods of teaching and instructing continuously. This contemplative practice is vital for the adaptation to various needs of students and overall enhancing the educational practices (Smith & Gillespie, 2023)

Significance of Professional Teacher Training.

Teachers have a direct influence on the outcome of student learning which is why Professional training is particularly important in the profession of teaching. High-quality programs of professional development for teacher training are designed in such a way that they are equipped with a better grasp of contemporary educational strategies (Ventista & Brown, 2023). Effective training programs address specific challenges that teachers face and help them deal with them by providing them with practical tools and strategies that can immediately be implemented in their classrooms (El, 2023)

As the teachers are expected to integrate new technologies and implement educational reforms, professional training helps the teachers to be well-prepared to deliver effective instructions and to meet all these demands.

Professional Development Impact on Teacher Productivity.

Professionally developed, strong, and well-trained teachers have high levels of effectiveness and productivity in classrooms. Studies have shown that teachers who are engaged in professional development tend to exhibit improved dealing in class management, and better instructional practices, and are seen to be considerably confident in their teaching abilities (Masters, 2023). When teachers are efficient in a classroom it ultimately leads to successful outcomes with the students, as effective practices of teaching are linked with academic achievements and high student engagement (Yan, 2023). Furthermore, when the teachers are well-trained, they become well-equipped to deal with the complexities of the classrooms and are able to incorporate teaching practices that are evidence-based supporting all students in the classroom (Sims et al., 2023) .

The Saudi Vision 2030 emphasizes the growth of a skilled workforce and educational reforms, where the significance of professional development is specifically expressed. Vision 2030 has the goal to transform the system of education by promoting high standards of learning and teaching, (Alharbi, 2018). The programs of professional development are vital for the goals of Vision 2030 to be met, as these programs aid the teachers in adopting contemporary practices and meeting the upgraded standards of education (Almohaidib, 2020) .

Research Problem.

It has been recognized by the Kingdom of Saudi Arabia that the professional development of teachers is vital for effective educational reforms. As stated in several studies , CPDPs (continuing professional development programs) are necessary for improving the knowledge and skills of teachers, which impacts the learning outcomes of students directly. Educational reforms are likely to weaken if these development programs for teachers' training do not exist (Alghamdi, 2011; Alhazmi et al., 2022) .

Vision 2030 of Saudi Arabia focuses on the significance of enhancing the outcomes and quality of education. The training program discussed in this study is consistent with Vision 2030, aiming to equip teachers with contemporary subject knowledge and educational skills required to encourage a learner-centered environment, specifically in the education of English language and Science. Recent studies have found substantial skill gaps among Saudi teachers, specifically in the teaching of English language and science. Research also suggests that targeting professional development can efficiently address these gaps, ultimately improving student performance and teaching practices. By emphasizing these areas, this research aims to

contribute to a more capable workforce of teachers (Alshehry, 2018; Maashi et al., 2022)

Research Significance.

emerging concepts of the professional development in Saudi Arabia for teachers showed a close regard with Vision 2030. This study aligned with the Vision 2030 of Saudi Arabia focused on the modification of the system of education so that it could meet contemporary demands. Furthermore, this research is aimed at contemplating empirical evidence regarding the efficacy of professional development in improving vital competencies like systemic thinking skills and information awareness thinking skills. This is important as it has been seen that the teachers who are equipped with such skills are better at handling the complexities of contemporary classrooms and incorporating evidence-based strategies of instruction.

Research has shown in the past that student achievements are directly correlated with the efficiency of teachers (Iranmehr et al., 2024). By improving the professional skills of the teachers, through efficient programs of teacher training, this current research aimed to enhance the outcomes of students learning in English as well as Science.

Moreover, Saudi Arabia's educational landscape is diverse, with students belonging to various cultures and linguistics (Alshehri & AlShabeb, 2024). This research provides an understanding of how the programs of professional development can be customized to meet the specified teacher needs working in a diversified environment, confirming that all students receive high-quality, unbiased education. Therefore, maintaining the focus on the significance of the current professional development, this research study promoted a culture of continuous enhancement among the teachers. Alongside helping individual teachers, this culture also helped in creating a more dynamic and responsive system of education that can be transformed according to the modifying societal needs. Additionally, this research supports the existing literature on professional development, by precisely targeting the context of Saudi Arabia. It discovers the unique opportunities and challenges that the teachers face, thereby providing significant comprehension of efficient professional development practices in the region of Saudi Arabia .

To sum it up, this research provides important implications for improving the effectiveness in teaching, enhancing student outcomes, and updating the educational policies in Saudi Arabia, ensuring it to be an essential input into the educational sector .



Research Objectives.

1. To investigate the existing status of professional development in English Language and Science Teachers in Saudi Arabia
 - a. To find out the existing status of information awareness thinking skills among English and Science Teachers in Saudi Arabia.
 - b. To find out the existing status of systemic thinking skills among English and Science Teachers of Saudi Arabia.
2. To find out the impact of professional teacher training on English and Science Teachers of Saudi Arabia.
 - a. To find out the impact of professional teacher training on information awareness thinking skills of English and Science Teachers in Saudi Arabia.
 - b. To find out the impact of professional teacher training on systemic thinking skills of English and Science Teachers in Saudi Arabia.
3. To find out the relationship between systemic thinking and information awareness thinking skills in English Language teachers of Saudi Arabia.
4. To find out the relationship between systemic thinking and information awareness thinking skills in science teachers of Saudi Arabia.

Research Hypothesis.

1. There is no significant impact of teacher training program on professional development of Science and English Language teachers.

Research Questions.

1. What is the current status of Professional development in English Language and Science teachers of Saudi Arabia with respect to information awareness thinking and systemic thinking skills?
2. What is the impact of professional teacher training in English and science teachers of Saudi Arabia regarding to information awareness thinking and systemic thinking skills?
3. What is the relationship between systemic thinking and information awareness thinking in English Language Teachers of Saudi Arabia?
4. What is the relationship between systemic thinking and information awareness thinking in science teachers of Saudi Arabia?

Literature Review.

According to the Organization for Economic Cooperation and Development (OCED), Professional Development is any activity that matures the skills, expertise, and knowledge of an individual in their respective fields. (OECD, 2009)

over time professional development has become a foundation of an efficient system of education, portraying increased recognition of its significance in improving the quality of teaching and student outcomes. Contemporary professional development programs on the other hand are designed to present teachers with continuous opportunities for learning various aspects of teaching methods, that include educational strategies, technological integration, and content knowledge (Masters, 2023) .

Professional development is recognized as a vital element in improving student outcomes and teacher efficacy. According to a study conducted by Alghamdi (2011), effective programs of professional development are significant for equipping educators with the required knowledge and skills to meet the standards of contemporary education. In the Kingdom of Saudi Arabia, the role that the English teachers play is pivotal as it is taught as a foreign language there. Another researcher, Alshaikh (2018) stressed upon the fact that these teachers are often the only primary source for the students to incorporate linguistics in their curriculum, hence, highlighting the need for the current professional training to maintain the standards of contemporary education.

Regardless of the known significance of professional development, several teachers in the Kingdom of Saudi Arabia have reported limited access for efficient opportunities for training. Alshehry (2018) states that although efforts have been made for the enhancement of teaching practices through professional development, there is still a significant gap in addressing the particular needs of English Language and Science teachers. Teachers have often expressed their concerns that the current professional development programs are not relevant to their teaching practices, and are insufficient for them to support initiatives of self-directed learning. Furthermore, Alshahrani et al. (2020) discovered that the participation of teachers in structured programs of professional development significantly improved the instructional practices of the EFL teachers, eventually forming better student achievement and engagement. Similarly, Alshehry (201) asserts that effective programs of professional development not only enhance the educational skills of teachers but also encourage positive changes in their perceptions regarding teaching and learning .

Moreover, the relationship between information awareness and systemic thinking is specifically relevant in this research as the existing body of

literature has observed that teachers who incorporate systemic thinking, and comprehend how various pedagogical elements link with one another, tend to reveal increased skills of information awareness, which includes utilizing and recognizing relevant information efficiently (Tschannen-Moran & Hoy, 2001). Studies focusing the EFL teachers in Saudi Arabia have shown that the teachers who develop strong skills of systemic thinking are better at integrating the skills of information awareness into their teaching strategies, eventually improving their efficacy as instructors (Almoossa, 2022).

Research has consistently highlighted that effective programs of professional development provide great insights for enhanced practices of teaching and therefore improve the outcomes of student learning (Smith & Gillespie, 2023). High-quality professional development better equips teachers to stay up-to-date with the evolving standards of education, implement progressing teaching strategies, and efficiently incorporate new technologies into their classrooms (Koehorst et al., 2021). This consistent development is essential in the era of such a rapid change in the educational environment, where the teachers must be skillful enough to address the dynamics of diverse classrooms and the varying needs of the students (Ventista & Brown, 2023).

A considerable number of researches address the positive impact of professional development on the efficiency of teachers, Sims et al. (2023) recognized several important features of efficient professional development, which included consistency with the instructional practices of the teachers and active learning opportunities. Programs that instill such features have been seen to improve the instructional strategies of the teachers alongside their management skills in the classroom. Similarly, Zulkifli et al., (2022) discovered that professional development for teachers has a substantial impact on student achievement, specifically when the professional development is focused and aligns with the particular needs of the teachers.

Several studies have investigated the influence of professional development on the skills of teachers and the outcomes of student learning. For instance, Kilag et al. (2023) established that the programs of PD focused on the content of subject matter and active learning significantly enhanced the knowledge of teachers and their methods of teaching. Another study by Ventista and Brown (2023) established that the programs of professional development incorporated opportunities and follow-up support for participation which had a positive outcome on the student achievement as well as the teaching practices.

Moreover, another study by El (2023) highlighted the significance of the programs of professional development that offer opportunities to teachers so that they can engage in collaborative learning and reflective practice.

Programs like these not only enhance the educational skills of the teachers but also create a culture of consistent enhancement and professional growth. Similarly, Yan (2023) in her research conducted a meta-analysis which underscores that the programs of professional development with a robust emphasis on evaluation and results are more likely to bring forth purposeful enhancements in teaching efficacy.

Vision 2030 has stressed significant educational reforms, underlining the need for efficient professional development programs to aid teachers in accomplishing progressive standards of education (Alharbi, 2018). Research specified in the region of Saudi Arabia, like Almohaidib (2020), has revealed that focused programs of professional development can play a vital role in aligning the practices of teachers with Vision 2030's goals and enhancing the overall quality of education.

Methodology.

Research Design.

This research employs a quantitative, quasi-experimental design for assessing the impact of a professional development training program for teachers which is aimed at improving the information awareness thinking skills and systemic thinking skills among the English Language and Science Teachers in the Kingdom of Saudi Arabia. The research is designed to measure the changes in the skills of the teachers before and after the training, equipping them with strong evidence regarding the efficacy of the intervention .

Participants.

The study incorporated a total of sixty female teachers, using convenient sampling, equally dividing the participants into two groups : thirty teachers of English Language and the other thirty teachers of science. participants were selected from various universities of Saudi Arabia offering undergraduate programs to maintain the diversity of the sample which reflects the broad landscape of teaching.

Research Instrument.

The research tool 'The Ohio State Teacher Efficacy Scale (OSTES)' developed by Tschannen-Moran and Hoy (2001), consists of three factors of professional development. was adapted by the researcher while incorporating the thematic influence of information awareness thinking and systematic thinking skills. The tool was used for the before-treatment and after-treatment levels to investigate the impact of a training program. OSTES is particularly designed to evaluate the self-efficacy beliefs of the teachers regarding student engagement, classroom management, and instructional

strategies that they use. Moreover, OSTES also let the researcher explore how the efficacy of teachers was related to their particular cognitive skills, like systemic thinking and information awareness. The scale also provides a standard method of comparing the efficiency levels of teachers before and after they participated in the training program. This comparison is vital for the effective evaluation of the training initiatives that are aimed at improving the overall teaching practices of Saudi Arabia. Utilizing OSTES in this research helped the researcher in examining the relationship between information awareness and systemic thinking among the teachers of Saudi Arabia. By measuring these skills through a validated tool, this study aims to provide empirical evidence, regarding how these cognitive skills interrelate with the teaching practices. Understanding this relationship between teaching practices and cognitive skills is vital for the development of targeted training programs for professional teaching development. Hence, the researcher employed The Ohio State Teacher Efficacy Scale (OSTES) in this study as it enriches the research methodology alongside presenting a strong framework for evaluating the teachers' cognitive skills and teaching efficacy .

Training Program.

The program of professional development for the teachers was designed around two major competencies of Professional development; Information awareness thinking skills and Systemic Thinking skills. Acknowledging that these skills are vital in the digital world today, the program was structured to equip the teachers with strategies and tools essential for directing complex environments of the education system .

The training focused on the significance of collecting, comprehending, and executing information awareness thinking efficiently. Training sessions included data analysis workshops, the use of educational technology, and research methodologies to improve teaching practices .

Parallel to that the program also aimed at developing the participants' abilities to embrace the challenges of the system of education systematically, allowing them to better understand the components that are interrelated in the field of education .

The training program took place from 22nd July to 28th July where participants were given sessions online. The entire training program was of twenty-five hours, with two-and-a-half-hour sessions daily. The online training sessions incorporated practical activities, collaborative discussions, and theoretical instructions to promote active learning .

Throughout the entire session of the training, the participants were engaged in assignments structured to evaluate their application and understanding of the concepts that were taught during the online sessions .

Result and Findings.

Table 1: Pre and Post Test of Information Awareness Thinking Skills for English Teachers.

One-Sample Statistics				
-	N	Mean	Std. Deviation	Std. Error Mean
IApreEng	30	3.44	.162	.030
IApostEng	30	4.53	.247	.045

One-Sample Test						
-	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
IApreEng	116.075	29	.000	3.439	3.38	3.50
IApostEng	100.556	29	.000	4.528	4.44	4.62

The tables above denote the one-sample T-Test that was conducted to analyze the pre and post-test results of variable information awareness thinking for the English teachers. The results indicate a significant difference from the test value of 0, having means of 3.44 and 4.53. The analysis of the test results shows a positive impact of the training, as denoted by the higher mean scores in the post-test results. The lower p-values also confirms the importance of these results showing that the intervention of the training program was effective for the improvement of English teachers' scores for information awareness thinking.

Table 2: Pre and Post Test of Information Awareness thinking Skills for Science Teachers.

One-Sample Statistics				
-	N	Mean	Std. Deviation	Std. Error Mean
IApreSci	30	3.34	.479	.087
IApostSci	30	4.36	.354	.065

One-Sample Test						
-	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
IApreSci	38.213	29	.000	3.343	3.16	3.52
IApostSci	67.537	29	.000	4.365	4.23	4.50

The tables above denote the one-sample T-Test that was conducted to analyze the pre and post-test results of variable information awareness thinking for the Science teachers. The results of the pre and post-tests of the science teachers having a test value of 0, shows a significant difference with the mean values of 3.34 and 4.36. The analysis of the test shows a positive impact of the professional development teachers training on the scores of science teachers as indicated by the increased mean scores from pre-test to post-test results. The lower p-values also confirms the importance of these results, showing that the intervention of the training program was effective for the improvement of science teachers' scores for information awareness thinking.

Table 3: Pre and Post Test of systematic thinking Skills for English Teachers.

One-Sample Statistics				
-	N	Mean	Std. Deviation	Std. Error Mean
STpreEng	30	2.34	.347	.061
STpostEng	30	3.28	.372	.066

One-Sample Test						
-	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
STpreEng	38.131	29	.000	2.336	2.21	2.46
STpostEng	49.921	29	.000	3.279	3.15	3.41

The tables above denote the one-sample T-Test that was conducted to analyze the pre and post-test results of the variable systemic thinking for the English teachers. The findings of the pre-test and post-test of the

systemic thinking means are significantly different from the test value of 0 as shown below Mean scores

being 2.34 and 3.28. it has been noted that the scores obtained in the pre and post-test show a positive influence of the professional. the development of training program based on the scores of English teachers for the variable of systemic thinking as shown by the mean of pre-tests and post-tests that have subsequently risen in turn. The p-value also supports the extensive analysis of these results proving the complexity of intervention of the training program being beneficial in improving English teachers' scores in systemic thinking skills .

Table 4: Pre and Post Test of systematic thinking Skills (Science Teachers)

One-Sample Statistics				
-	N	Mean	Std. Deviation	Std. Error Mean
STpreSci	30	2.12	.244	.045
STpostSci	30	3.36	.234	.043

One-Sample Test						
-	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
STpreSci	47.676	29	.000	2.123	2.03	2.21
STpostSci	78.388	29	.000	3.355	3.27	3.44

The tables above denote the one-sample T-Test that was conducted to analyze the pre and post-test results of the variable systemic thinking for the Science teachers. The results of the pre-test and post-test of the science teachers indicate a significant difference from the test value of 0, with mean values of 2.12 and 3.36 for both the groups, pre and post respectively. The analysis of these results indicates a positive impact of the professional development teachers training program on the scores of the science teachers as shown by the increase in the mean values from pre-test to post-test results. The p-values also confirm the statistical significance of these results, indicating that the intervention of the training program effectively enhanced the scores of the science teachers for systemic thinking .

Table 5: Impact analysis of IA and ST on PD Skills of Teachers-Model Summary

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.564a	.318	.294	.569	.318	13.289	2	57	.000

Predictors: (Constant), STPD, IAPD

The model summary table above provides the significant information about regression analysis which examines the effect of two predictors; Information awareness thinking and Systemic Thinking on the professional development skills of the Science teachers .

The regression analysis indicates a moderate correlation between the two predictors; information awareness and systemic thinking and the teachers' skills of professional development explaining the variance to be 31.8% in the science teachers for professional development. The model is statistically significant, showing that the predictors; (information awareness thinking and systemic thinking) are meaningful in elaborating the differences in the professional development skills of the teachers.

Table 6: Impact analysis of IA and ST on PD Skills of Teachers-ANOVA

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.596	2	4.298	13.289	.000b
	Residual	18.435	57	.323		
	Total	27.031	59			

a. Dependent Variable: PDSci

b. Predictors: (Constant), STPD, IAPD

The ANOVA (Analysis of Variance) table indicates essential information about the inclusive significance of the regression test, which analyzes the impact of the independent variables; STPD- Systemic thinking, professional development, and IAPD-Information awareness thinking professional development on the dependent variable; PDS-Professional development skills .

The ANOVA table denotes the regression model to be significant, explaining the variability in the skills of professional development for the teachers. The predictors; Systemic thinking and Information awareness thinking together account for a subsequent variance amount in the dependent

variable as indicated by the p-value and the F-statistic value. This indicates strong evidence that the intervention of the training program has a significant impact on enhancing the professional development skills of the teachers .

Table 7: Impact Analysis of IA and ST on PD Skills of Teachers-Coefficients

Coefficients						
Model	Unstandardized Coefficients			Standardized Coefficients	t	Sig.
	B	Std. Error		Beta		
1	(Constant)	-3.253	1.421		-2.289	.026
	IAPD	.942	.238	.438	3.960	.000
	STPD	.930	.241	.426	3.853	.000

a. Dependent Variable: PDSci

The coefficient table above provides detailed information about the contributions of the individual predictors; IAPD-Information awareness thinking Professional Development and STPD-Systemic thinking professional development to the regression model, elaborating their relationship with PD-Professional Development skills, the dependent variable .

The coefficient table denotes that Information Awareness Thinking professional development and Systemic Thinking professional development both have significant positive impact on the teachers' skills of professional development. Each unit that was increased in IAPD is linked with an increase of approximately 0.942 units in Professional development, while similarly in STPD each unit increase is linked with an increase of approximately 0.930 units. IAPD and STPD, both are found to be statistically significant, indicating that they are significant contributors to the enhancement of the professional development skills of the teachers. The coefficient has shown insights into the relative significance and strength of the impact of each predictor .

Discussion.

Therefore, the implications of this study are the revelation of a positive effect of professional development on the student teachers. The results from multiple PD training reported that the IA and ST skills of English and Science teachers working in Saudi Arabian Universities. Based on statistical data, researchers are presented with some marked enhancements in both.

This has been captured in the performance of skills in IA and ST as described in the pre-test and post-test scores in the two subjects. Also, the

regression analysis to investigate the effects of IA & ST on the dependent variable endorse the proposition that IA and ST are both significant and have positive impacts on the professional development of teachers .

Information Awareness Thinking Skills.

The findings show a significant improvement in the IA thinking skills in both the English and Science teachers. For English teachers, the IA scores in terms of mean were overall higher than the pre-test, starting from 3.3 in the pre-test to 1.53 in the post-test, thus signifying an improvement by effectively enhancing it ($F(2,78) = 11.315, p < 0.001$). Likewise, for the science teachers, the IA mean has an overall improvement from 3. undefined 36 ($p < .001$). Consequently, the findings of this study corroborate those of previous studies, which have indicated that professional development programs do enhance teachers' IA; moreover, IA skills are vital for improving the efficiency of teachers' work processes by providing them with the capacity to manage change in educational contexts and conditions as well as advances in technology (Kamilovna et al., 2023). Teachers who possess higher IA are in a better position to analyze and implement relevant data to enhance teaching and learning practices in their classrooms.

However, the literature does not contain only such positive outcomes. For instance, Barksdale et al. (2021) claim that despite PD efforts to enhance IT usage by teachers, they encounter obstacles to Information Awareness integration because schools do not have enough technology-enhanced infrastructure and information support. If this is the case, then, based on the data of the present work, it can be presumed that the concrete training programs in Saudi Arabia do not reveal such problems because they introduced the materials and approaches instantiating the training of IA skills in one or another way.

Systemic Thinking Skills.

The result also reveals that there were significant enhancements in the teachers' general ability to think systematically specifically the English and Science teachers. The participants' mean scores for the extent of systemic thinking improved from 2.34 to 3.28 for English teachers and from 2.12 to 3.36 for science teachers, both of which had statistically significant differences, $t(196) = 15.56, p < 0.001$. These outcomes indicate that the PD program enhances systemic thinking to teachers so that they are in a position to understand complicated classroom dynamics and systems in education.

This result is in line with other literature like Thyberg et al. (2024) whereby, teachers' professional learning and the ability to address educational issues calls for the use of systemic thinking. As cited by the

authors, systemic thinking helps teachers gain considerable insight into why and how all the elements of the learning process are related and interdependent, thus helping the teachers to make better decisions in their instruction. These arguments are corroborated by the current study findings as the teachers' increased systemic thinking skills may be attributed to their improved reflective ableness of the system-level information to modify their practice accordingly.

On the other hand, some studies suggest that systemic thinking is not always adequately addressed in professional development programs. Verhoeff et al. (2018) argue that the current PD models in the Middle East, including Saudi Arabia, are often too focused on instructional strategies and neglect the development of systemic thinking therefore he suggested three theories to focus on in PD. While this critique may hold for some training programs, the findings of the present study indicate that the specific PD interventions provided to these teachers successfully integrated components that fostered systemic thinking.

Impact on Professional Development Skills.

The regression analysis reveals a moderate but significant correlation between IA, ST, and professional development skills. The model explains 31.8% of the variance in professional development skills ($p < .001$), confirming that both IA and ST contribute meaningfully to the enhancement of teachers' professional development. The standardized coefficients show that IA ($B = .942$, $p < .001$) and ST ($B = .930$, $p < .001$) are equally important predictors.

This corresponds with the works of Ahmed et al. (2018), whereby the authors pose it for the use of multiple cognitive skills such as IA and ST in professionalism. Teachers who are competent in both domains are relatively better placed to make use of new teaching practices, technologies, and reflections resulting in enhanced teaching performance. in the light of the findings of this study, we have to underline more current and future research concerning to professional development of teachers in relation to systems thinking teaching (Gilissen et al., 2020; Karaarslan & Teksöz, 2020; Ventista & Brown, 2023). IA and ST that signified positive contributions in this study is in consonance with the general evidence in the literature, suggesting that PD programs must encompass object content knowledge and aspects of teacher thinking, to effectively facilitate well-rounded teacher development.

Conclusion.

The findings of this research indicate that the current professional development status of the science and English language teachers in the Kingdom of Saudi Arabia indicates a lack of proper training programs that efficiently improve the teachers' skills of systemic thinking and information awareness. Several teachers report having limited exposure to training programs that incorporate these components of critical thinking into their practice teaching. Although there are some initiatives, they often do not meet the teachers' diverse needs with the standards of contemporary education, ultimately creating gaps in the abilities of the teachers to encourage the skills on critical thinking among students. The study has revealed that targeted training programs for teachers' professional development significantly enhance the teachers' skills of systemic thinking as well as information awareness. Participants who were engaged in the experimental group have demonstrated increased confidence in their skills to incorporate these skills in their teaching methods eventually leading to more efficient strategies of teaching. The results show that when the teachers are equipped with the right methodologies and tools, they can facilitate the students better and develop understanding and engagement in the classrooms even if complex subjects are being taught. Similarly, the study found that professional development of Information Awareness and Systemic Thinking both have a positive impact on the professional skills of teachers. Professional development of systemic thinking and information awareness are statistically significant, suggesting that they are positive contributors to the improvement of the professional skill development of the teachers. This relationship highlights the significance of developing both kinds of thinking skills through professional training development programs, to instill a more integrated environment of learning.

References

- Alghamdi, A. H., & Li, L. (2011). Teachers' Continuing Professional Development Programmes in the Kingdom of Saudi Arabia. Online Submission.
- Alhamzi, M. A., Alqarni, T. M., & Al-Assar, S. (2022). Reality of teacher professional development programs in light of professional license standards in Saudi Arabia. *Journal of Positive School Psychology*, 6(4).
- Alharbi, M. F. (2018). An analysis of the Saudi health-care system's readiness to change in the context of the Saudi National Health-care Plan in Vision 2030. *International Journal of Health Sciences*, 3.
- Alharbi, S. (2018). Vision 2030 and the transformation of the Saudi educational system. *International Journal of Educational Management*, 32(3), 522-533.
- Alkaabi, A. M. (2023). Designing Enduring and Impactful Professional Development to Support Teacher Growth. In *Innovations in Teacher Development, Personalized Learning, and Upskilling the Workforce* (pp. 1-23). IGI Global.
- Allmnakrah, A., & Evers, C. (2019b). The need for a fundamental shift in the Saudi education system: Implementing the Saudi Arabian economic vision 2030. *Research in Education*, 106(1), 22–40. <https://doi.org/10.1177/0034523719851534>
- Almohaidib, A. (2020). The impact of Vision 2030 on Saudi Arabian education reform. *Journal of Education and Practice*, 11(18), 63-74.
- Almosa, S. Y., & Alzahrani, S. M. (2022). Assessment approaches of English language teachers in the Saudi higher education context. *Language Testing in Asia*, 12(1). <https://doi.org/10.1186/s40468-022-00160-x>
- Alshaikhi, H. I. A. (2018). English language teacher professional development in Saudi Arabia: teachers' perceptions. University of Exeter (United Kingdom).
- Alshehri, A., & AlShabeb, A. (2024). Exploring attitudes, identity, and linguistic variation among Arabic speakers: Insights from acoustic landscapes. *International Journal of Arabic-English Studies*, 24(2), 1-16.
- Alshehry, A. (2018). Case study of Science Teachers' professional development in Saudi Arabia: Challenges and Improvements. *International Education Studies*, 11(3), 70. <https://doi.org/10.5539/ies.v11n3p70>
- Barksdale, S., Upadhyay, B., & Vernon, M. (2021). Teacher Professional Development: Mobile and Limited Technology-Enhanced Pedagogy. *International Journal of Technology in Education and Science*, 5(4), 486-511.
- El, A. A. M. M. A. (2023). The role of educational initiatives in EFL teacher professional development: a study of teacher mentors' perspectives. *Heliyon*, 9(2).

- Gilissen, M. G., Knippels, M. C. P., Verhoeff, R. P., & van Joolingen, W. R. (2020). Teachers' and educators' perspectives on systems thinking and its implementation in Dutch biology education. *Journal of Biological Education*.
- Iranmehr, A., Davari, H., Nourzadeh, S., & Hassani, G. (2024). English Language Education Policy and Practice in Iran and Saudi Arabia: A Comparative Study. *Iranian Journal of Comparative Education*, 7(1), 2805–2826. <https://doi.org/10.22034/ijce.2023.409045.1515>
- Joseph, O. B., & Uzundu, N. C. (2024). Professional development for STEM Educators: Enhancing teaching effectiveness through continuous learning. *International Journal of Applied Research in Social Sciences*, 6(8), 1557-1574.
- Kamilovna, Z. G., Fayzulloyevna, N. F., & Subxonqulov To'xtamurod o'g, U. (2023). Building the professional competence of globally competitive teachers in digital and information and communication technologies. *Journal of Survey in Fisheries Sciences*, 10(3S), 2254-2264.
- Karaarslan Semiz, G., & Teksöz, G. (2020). Developing the systems thinking skills of pre-service science teachers through an outdoor ESD course. *Journal of Adventure Education and Outdoor Learning*, 20(4), 337-356.
- Kilag, O. K. T., Bariquit, I. A., Glipa, C. G., Ignacio, R. A. R. A., Alvez, G. U., Guilot, R. T., & Sasan, J. M. (2023). Implication of Individual Plan for Professional Development (IPPD) on Teachers' Professional Development and Career Advancement. *Basic and Applied Education Research Journal*, 4(1), 12-18.
- Koehorst, M. M., Van Deursen, A. J. a. M., Van Dijk, J. a. G. M., & De Haan, J. (2021). A systematic literature review of organizational factors influencing 21st-Century skills. *SAGE Open*, 11(4), 215824402110672. <https://doi.org/10.1177/21582440211067251>
- Maashi, K. M., Kewalramani, S., & Alabdulkareem, S. A. (2022). Sustainable professional development for STEM teachers in Saudi Arabia. *Eurasia Journal of Mathematics Science and Technology Education*, 18(12), em2189. <https://doi.org/10.29333/ejmste/12597>
- Masters, G. N. (2023). Building a world-class learning system: Insights from some top-performing school systems.
- Mohiuddin, K., Nasr, O. A., Miladi, M. N., Fatima, H., Shahwar, S., & Naveed, Q. N. (2023). Potentialities and priorities for higher educational development in Saudi Arabia for the next decade: Critical reflections of the vision 2030 framework. *Heliyon*, 9(5).
- Organisation for Economic Cooperation and Development (OECD). (2009). Creating effective teaching and learning environments: First results from TALIS. Retrieved from <https://www.oecd.org/education/school/43023606.pdf>

- Sims, S., Fletcher-Wood, H., O'Mara-Eves, A., Cottingham, S., Stansfield, C., Goodrich, J., ... & Anders, J. (2023). Effective teacher professional development: New theory and a meta-analytic test. *Review of Educational Research*, 00346543231217480.
- Smith, C., & Gillespie, M. (2023). Research on professional development and teacher change: Implications for adult basic education. In *Review of Adult Learning and Literacy*, Volume 7 (pp. 205-244). Routledge.
- Thyberg, A., Schönborn, K., & Gericke, N. (2024). Phases of Progression: Students' meaning-making of Epigenetic Visual Representations within and between Levels of Organization. *Research in Science Education*, 1-25.
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and teacher education*, 17(7), 783-805.
- Tschannen-Moran, M., & Hoy, A. W. (2001). Ohio State Teacher Efficacy Scale (OSTES) [Database record]. APA PsycTests. <https://doi.org/10.1037/t11400-000>
- Ventista, O. M., & Brown, C. (2023). Teachers' professional learning and its impact on students' learning outcomes: Findings from a systematic review. *Social Sciences & Humanities Open*, 8(1), 100565.
- Yan, D. (2023). *Visible learning: the sequel: a synthesis of over 2,100 meta-analyses relating to achievement*: by John Hattie, Abingdon, Routledge, 2023, 510 pp.,£ 18.39 (pbk), ISBN 9781032462035.
- Zhang, L., Carter Jr, R. A., Zhang, J., Hunt, T. L., Emerling, C. R., Yang, S., & Xu, F. (2024). Teacher perceptions of effective professional development: Insights for design. *Professional Development in Education*, 50(4), 611-624.
- Zulkifli, H., Tamuri, A. H., & Azman, N. A. (2022). Understanding creative teaching in twenty-first-century learning among Islamic education teachers during the COVID-19 pandemic. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.920859>





الجامعة الإسلامية بالمدينة المنورة
ISLAMIC UNIVERSITY OF MADINAH



Islamic University Journal For

Educational and Social Sciences

A peer-reviewed scientific journal

Published four times a year in:
(March, June, September and December)

