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Editorial

La internacionalización de la educación superior se ha consolidado como un aspecto central de las políticas educativas a nivel mundial, impulsada por la globalización y la creciente necesidad de desarrollar competencias interculturales y globales en los estudiantes. En la actualidad, las Instituciones de Educación Superior (IES) enfrentan un entorno cada vez más competitivo, donde la integración de una dimensión internacional en sus programas y estrategias se ha vuelto un factor determinante para su posicionamiento y relevancia en el escenario global. Este proceso no solo busca ampliar la proyección internacional de las IES, sino que también implica una profunda transformación de la enseñanza, la investigación y la colaboración académica.

En este contexto, la movilidad estudiantil ha sido históricamente una de las manifestaciones más visibles de la internacionalización. Miles de estudiantes se desplazan anualmente para cursar programas de intercambio, dobles titulaciones o estudios completos en el extranjero. Esta experiencia no solo enriquece la formación académica de los estudiantes, sino que también fortalece su desarrollo personal y profesional al permitirles adquirir una perspectiva global. Sin embargo, la movilidad estudiantil también enfrenta importantes desafíos. Las barreras económicas, la disparidad en el reconocimiento de títulos y las diferencias en los sistemas educativos de cada país pueden limitar el acceso a estas oportunidades. Ante estas dificultades, muchas IES han optado por fomentar la internacionalización en casa, implementando programas de estudios que promuevan la competencia intercultural sin necesidad de desplazamiento.

Además de la movilidad, la internacionalización de la educación superior se refleja en la colaboración académica y en la investigación conjunta. Aquí, las redes internacionales de investigación permiten a los académicos trabajar en proyectos de relevancia global, abordando desafíos como el cambio climático, la salud pública y la inteligencia artificial. Estas colaboraciones no solo fortalecen la producción científica, sino que también facilitan el acceso a recursos y conocimientos que no estarían disponibles de forma aislada. Sin embargo, la colaboración internacional enfrenta barreras como la desigualdad en la capacidad de investigación entre países, la competencia por recursos financieros y las dificultades para establecer acuerdos equitativos entre las partes.

En el ámbito de la docencia, la internacionalización ha llevado a muchas IES a replantear sus currículos, incorporando contenidos que reflejen una perspectiva global y favorezcan la comprensión de otras culturas y contextos. Esta integración de una dimensión internacional en la enseñanza busca preparar a las y los estudiantes para desenvolverse en un mundo cada vez más interconectado, donde las habilidades interculturales y la capacidad de adaptación son fundamentales.

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El uso de la tecnología ha sido, sin duda, un factor clave para la expansión de la internacionalización en la educación superior. Las plataformas de aprendizaje en línea y los programas de aprendizaje virtual han facilitado la creación de aulas globales, donde estudiantes de distintas partes del mundo pueden interactuar y aprender juntos. Este tipo de iniciativas ha demostrado ser especialmente valioso en contextos como la pandemia de COVID-19, cuando la movilidad física se vio restringida, pero la colaboración académica pudo mantenerse activa a través de medios digitales. No obstante, la brecha digital sigue siendo un obstáculo importante para la plena integración de las tecnologías en la educación internacional, lo que plantea la necesidad de políticas que garanticen el acceso equitativo a estas herramientas.

A pesar de los desafíos, la internacionalización de la educación superior ofrece múltiples oportunidades para el desarrollo de una educación más inclusiva, diversa y de calidad. Las IES tienen la responsabilidad de formar ciudadanos globales, capaces de contribuir al desarrollo sostenible de sus comunidades y de enfrentar los problemas globales con una perspectiva crítica y multidisciplinaria. En este sentido, la internacionalización se convierte en una herramienta para la promoción de la paz, la cooperación y el entendimiento mutuo entre culturas, contribuyendo así a la construcción de un mundo más justo y equitativo.

En última instancia, La internacionalización de la educación superior es clave para que las IES se posicionen en la generación de conocimiento. Este proceso debe ser ético y responsable, considerando las desigualdades educativas y buscando un impacto positivo, tanto a nivel local como global. No solo es una oportunidad de expansión, sino un compromiso con la formación de estudiantes y la construcción de sociedades más justas. Su futuro dependerá de la adaptación de las IES a un mundo cambiante, promoviendo la cooperación y el diálogo para una educación más conectada y sostenible.

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ARTÍCULO ORIGINAL

Aula sensorial:
Impacto en el Desarrollo Cognitivo del alumnado de Educación Infantil

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Resumen

El desarrollo cognitivo se ha demostrado altamente beneficioso, con numerosos estudios que destacan la importancia de la primera infancia. Durante esta etapa, los estímulos recibidos tienen un impacto significativo en el desarrollo posterior. Se han establecido dos concepciones predominantes. Las aulas multisensoriales se han desarrollado para mejorar estas habilidades en diferentes poblaciones, proporcionando un entorno adecuado para el desarrollo cognitivo, social y emocional de los niños. La investigación utilizó un diseño no aleatorizado con pre-test y post-test para evaluar el esquema corporal en niños de cinco años. Se realizaron seis sesiones de 45 minutos durante un mes y medio, comparando un grupo en aula sensorial con otro en aula convencional. Se analizaron dibujos de los niños para medir mejoras en detalle y propiocepción. Los resultados se clasificaron en niveles de mejora y no mejora del dibujo del esquema corporal. En el grupo experimental, se observó una mayor mejora comparada con el grupo control en ambas actividades evaluadas. Los resultados muestran que los dibujos del grupo experimental mejoraron significativamente tras las intervenciones en el aula sensorial, en comparación con el grupo control. Las estrategias de Integración Sensorial (IS) mejoraron el rendimiento cognitivo y la representación del esquema corporal del alumnado.

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Sensory classroom: Impact on the Cognitive Development of Early Childhood Education students

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Abstract
Cognitive development has been shown to be highly beneficial, with numerous studies highlighting the importance of early childhood. During this stage, the stimuli received have a significant impact on later development. Two predominant conceptions have been established. Multisensory classrooms have been developed to enhance these skills in different populations, providing an appropriate environment for the cognitive, social, and emotional development of children. The research utilized a non-randomized design with pre-test and post-test to evaluate body schema in five-year-old children. Six 45-minute sessions were conducted over a month and a half, comparing one group in a sensory classroom with another in a conventional classroom. Children's drawings were analyzed to measure improvements in detail and proprioception. The results were classified into levels of improvement and non-improvement of body schema drawings. The experimental group showed greater improvement compared to the control group in both evaluated activities. The results indicate that the drawings of the experimental group significantly improved following interventions in the sensory classroom, compared to the control group. Sensory Integration (SI) strategies improved the students' cognitive performance and body schema representation.

Introducción

El ámbito del desarrollo cognitivo ha crecido considerablemente demostrando ser altamente beneficioso con numerosos estudios científicos, sorprendiendo a algunos de nuestros predecesores que creían inviable una psicología infantil experimental (Kessen, 1983).

Además, se ha constatado que, en los primeros años de vida, se establece una fase primordial en la que se determina en gran medida el curso futuro de las personas. Esto se debe a que, durante la infancia, las personas son altamente receptivas, lo que significa que los estímulos que reciben en edades tempranas tendrán un impacto significativo en su desarrollo posterior (Cebolla-Boado *et al*., 2013). Es por ello por lo que, si se establece una base estable y sólida durante la primera infancia, el proceso de aprendizaje posterior no solo será más efectivo, sino que también aumentará la probabilidad de que perdure a lo largo de toda la vida (Comisión Europea, 2011).

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Así, en la actualidad aparecen dos concepciones predominantes sobre la naturaleza y evolución del sistema cognitivo: la perspectiva del procesamiento de la información y la del destacado psicólogo suizo Jean Piaget (Jhon, 2019). La teoría del procesamiento de la información es un conjunto de pensamientos que entienden al ser humano como un procesador activo de la información, son modelos que se engloban en el cognitivismo, un movimiento que defiende que los pensamientos y contenidos mentales influyen en la forma de actuar y deben ser distinguidos de esta (Torres, 2017).

Por otra parte, Piaget (1975) concebía el conocimiento humano como una adaptación biológica única de un organismo complejo a su entorno igualmente complejo. Utilizó dos términos en su teoría: asimilación y acomodación, en la asimilación el niño o niña trata de que la información nueva encaje con sus conocimientos previos moldeándola, por ejemplo: A un niño que le dices que las personas tienen cinco dedos en cada mano, a la hora de dibujarse, dibujará cinco dedos en cualquier parte del cuerpo para que el dibujo cumpla con la realidad que le has dicho, sin embargo, cuando va pasando el tiempo el niño entenderá que los cinco dedos salen de cada una de las dos manos y podrá dibujarlo, ese último proceso se llama asimilación.

El mundo que envuelve al niño y a la niña y su vida en relación comienza a través de los sentidos y construye su mente por las sensaciones, que le ayudan a construir sus propias ideas de la vida, la guía de la interpretación sensitiva es fundamental desde primeras edades. La estimulación sensorial se produce por la unión de la percepción y los sentidos, la cual crea una gran vía para el aprendizaje (Soler, 1992).

La estimulación sensorial ha adquirido cada vez más relevancia para mejorar el desarrollo en edades tempranas (Cuadrado, 2021). Según Montessori (2003, p. 245), "en muchos casos la inteligencia resulta inútil por falta de práctica, y esta práctica es casi siempre una educación sensorial. Todos tenemos necesidad en la vida práctica de poder apreciar con exactitud los estímulos del ambiente". Además, Soler (1989) asegura que, los sentidos representan las primeras conexiones con la conciencia, lo que implica que nuestro sistema sensorial es crucial para nuestro desarrollo continuo. La actividad mental comienza con la percepción de estímulos sensoriales.

Por esta razón, las vivencias sensoriales deben proporcionar una experiencia personal significativa para los estudiantes. En la etapa de Educación Infantil, es crucial que los estudiantes desarrollen habilidades de juego simbólico, estimulen su coordinación viso-motriz, controlen la atención y articulen su organización espacial, construyendo así su imagen corporal a través del conocimiento de la percepción de su propio cuerpo en esta fase de desarrollo perceptivo-motor (Lázaro y Berruezo, 2009).

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Asimismo, los estímulos deben ser programados de una forma concreta y adecuada a lo largo de la sesión para evitar la saturación de quien participe en la misma (Martínez, 2015), es más, según Portero (2016) una estimulación por encima de las posibilidades del alumnado o vivencias sobrecargadas de estímulos en primeras edades pueden ser contraproducentes para un cerebro tan sensible. Por ello se debe establecer parámetros como el tiempo, lugar adecuado y estímulos que concuerden con la edad y capacidad de los niños y niñas.

Por tanto, el objetivo de esta estimulación es lograr un incremento en la funcionalidad y desarrollo de las habilidades infantiles; mediante la misma se pretende que el niño o la niña tenga mejores oportunidades de desarrollo en el entorno que lo rodea; además, gracias al movimiento mediante las sensaciones, el sistema nervioso logra procesar la información para mejorar el aprendizaje que las mismas proporcionan, logrando así la adaptabilidad cerebral para las diversas experiencias del medio (Reynolds *et al*., 2017). El desarrollo sensorial resulta en un nivel notable de calma, una mejora en el bienestar social y una mayor conexión con el entorno circundante (Lázaro et al., 2010). A partir de la importancia de la estimulación sensorial, se han creado espacios diseñados para la estimulación de los sentidos de forma directa: las aulas multisensoriales.

La creación de estos espacios nació en Holanda, a mitad de los años 70 del siglo anterior, en la escuela de Hartenberg, por el ingeniero Ad Verheul y más personas especializadas, para enriquecer con actividades innovadoras y llamativas a personas con grandes discapacidades (Verheul, 2007). En Holanda, existe una palabra que los describe: *snoezelen*. Qué significas oler y somnolencia, por lo que la palabra siguiere una sensación de languidez. Desde entonces, el aula multisensorial se ha extendido por los países nórdicos y por gran parte de Europa y otras partes del mundo. Por supuesto, a raíz de la actuación de la Internacional Snoezelen Association (ISNA), que fue instaurada en el año 2002 por Ad Verheul y la Dra. Mertens (Lázaro, 2007).

En 1987, en Whittingtong (Reino unido), fue creada la primera instalación sensorial *snoezelen,* con seis zonas multisensoriales diferentes entre sí. Se produjo una investigación por parte del equipo de terapeutas con pacientes que se autolesionaban debido a trastornos del comportamiento, después de las intervenciones, estos comportamientos se redujeron considerablemente, lo cual dejo asombrados a los terapeutas (Lázaro et al.,2010).

De forma común, la sala multisensorial puso rumbo a la terapia, formándose como espacio de intervención en el que se usaban las sensaciones sensoriales y el bienestar. Sus cuatro factores más importantes eran: el ocio, la relajación, la atención individualizada y la estimulación sensorial (Hoyas, 2009). Por todo esto, en los últimos años, su uso se ha extendido considerablemente, no solo en poblaciones con parálisis cerebral, personas mayores, autismo, discapacidad intelectual o cuidados paliativos. Si no, en población sin ningún tipo de necesidad educativa específica (Roncha, 2014).

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Hay 3 modalidades de sala con diferentes objetivos (Hoyas, 2009):

- **Sala blanca:** Son las más comunes, su principal propósito es conseguir la relajación y la estimulación sensorial a través del descubrimiento y la espontaneidad.
- **Sala negra:** Esta caracterizada por la luz negra y hace posible el aprendizaje, el movimiento y la búsqueda de la sorpresa.
- **Sala de aventura:** La cual cuenta con elementos que permiten la actividad perceptivo-motora y sensorial, por medio de obstáculos, cuerdas colgadas, sorpresas, cilindros huecos, grandes pelotas, etc.

Este tipo de aulas no cuentan con una organización estandarizada, es trabajo del docente o profesional, proporcionar los elementos que consigan beneficiar diseñando un entorno adecuado al tipo de población a la cual nos enfrentamos en cada sesión (Hoyas, 2009).

El juego puede verse acentuado y potenciado por un clima diseñado meticulosamente (Vanderberg, 1982), con esta descripción nos referimos al aula multisensorial, el cual es un entorno idóneo para el crecimiento de múltiples habilidades debido a que se crea pensando en una atmosfera agradable y segura para el infante, muchas actividades son de atracción y la presencia de un adulto no resulta molesta. (Pagliano, 1999).

Justificación

La primera infancia es un periodo crucial para el desarrollo cognitivo, social y emocional de los niños y las niñas, en consecuencia, se han llevado a cabo estudios alrededor de todo el mundo los cuales muestran que el déficit en las habilidades tempranas cognitivas y no cognitivas se hacen reales de manera prematura en la vida (Singer, 2016).

A partir de los estudios llevados a cabo por Agudelo et al., (2017) en relación con *la estimulación sensorial en el desarrollo cognitivo de la primera infancia*, se está demostrando como hay diversos factores que inciden directamente en el aprendizaje de los niños y las niñas a través de actividades de estimulación sensorial que realizan los docentes y terapeutas.

Según Gasso (2005), los estudios previos han demostrado la importancia de la elección de unas buenas metodologías y materiales, ya que el niño y la niña aprenden a través de acciones como tocar, manipular, arrastrar, hacer, deshacer, construir y mirar, lo cual contribuye a que los niños y niñas vayan conociendo las cualidades de los objetos y así desarrollando su capacidad de aprender.

El aprendizaje a través de los sentidos de una forma adecuada contribuye al desarrollo de habilidades motoras, cognitivas y socioemocionales en los niños y las niñas. Una vez el niño o la niña nace, se conecta con el mundo que tiene alrededor, un claro ejemplo es, cuando a través del olfato y el gusto, cuando el bebé es amamantado por su madre a las pocas horas de haber nacido, ya va conociendo su hábitat (Soler, 1989). A medida que la comprensión de la neurociencia aplicada a la

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educación infantil avanza, es primordial reconocer que la plasticidad cerebral y el proceso de aprendizaje están estrechamente relacionados. La neuroplasticidad mejora debido a la estimulación sensorial, la experiencia y el aprendizaje. Este es un proceso que se produce en el cerebro a través de las experiencias diarias a lo largo de la vida (Aguilar et al., 2010).

Es por ello por lo que, el estudio y experimentación de la estimulación sensorial es primordial para avanzar respecto a la información que tenemos para poder actuar y así evitar problemáticas de aprendizaje y además potenciar la actitud y motivación de los niños ante el aprendizaje (Mosquera, 2023).

Objetivos

Por tanto, se establecen para la presente investigación los siguientes objetivos e hipótesis:

Objetivo General

- Evaluar el impacto del trabajo sensorial, el esquema corporal y la experimentación del mundo sensitivo a través del "aula sensorial" para el desarrollo cognitivo del alumnado de educación infantil.

Objetivos Específicos

- Destacar la importancia de la educación sensorial en la etapa de Educación Infantil.
- Fomentar el aprendizaje por descubrimientos a través del desarrollo armónico de los sentidos mediante situaciones educativas sensoriales.
- Despertar la curiosidad del alumnado hacia el conocimiento a través de las percepciones sensoriales.
- Proponer directrices para la Integración Curricular: Desarrollar pautas y recomendaciones para los educadores sobre cómo integrar de manera efectiva las actividades sensoriales en el currículo de Educación Infantil, considerando aspectos pedagógicos y de inclusión.
- Generar conocimiento para la toma de decisiones: Proporcionar a las instituciones educativas, educadores y responsables de políticas educativas datos sólidos y análisis que les permitan tomar decisiones informadas sobre la inclusión de actividades sensoriales en alumnado de Educación Infantil.

Hipótesis

Se postula que la participación en una sesión estructurada en un aula sensorial, centrada en la exploración y el fortalecimiento del esquema corporal y la psicomotricidad, tendrá un efecto positivo en el desarrollo cognitivo de los niños y niñas de cinco años de educación infantil. Se anticipa que esta mejora será evidente en la capacidad de los niños y las niñas para representar su propio cuerpo de manera precisa en el post-test. Además, se espera que esta intervención en el aula sensorial proporcione un ambiente propicio para fomentar una educación innovadora en cuanto a

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la integración sensorial, lo que podría tener un impacto positivo en la disposición del alumnado frente al esquema corporal y la propiocepción. En resumen, se espera que esta intervención en el aula sensorial mejore la percepción y comprensión del esquema corporal de los estudiantes, y así mismo el desarrollo general de las actividades cognitivas principales como la propiocepción durante la etapa de educación infantil.

Método

Diseño de la investigación

La presente investigación se basa en un experimento natural con un diseño no aleatorizado con un pre-test y post-test (Verjans-Janssen et al., 2018). A través de un muestreo aleatorio simple, donde se han seleccionado dos grupos completos del nivel de 5 años de educación infantil. Se evaluó la diferencia de pre-test y post-test mediante un dibujo del esquema corporal en niños y niñas de 5 años. El programa de intervención tuvo una extensión temporal de un mes y medio (6 sesiones de 45 minutos).

Participantes

El estudio se realizó con dos grupos diferentes, uno a través de actividades físicas en el aula sensorial (grupo experimental) y otro fuera del aula sensorial y con una metodología más tradicional en el aprendizaje de los saberes básicos seleccionados (grupo control).

Dentro del aula sensorial se contó con 34 estudiantes de los cuales 14 son niñas y 20 son niños, el nivel del grupo se encuentra el último año del segundo ciclo de educación infantil. La edad media de los participantes es de 5,2 $\pm$ 0,387 años. Se ha elegido esta muestra para desarrollar la experiencia con el alumnado en el aprendizaje de los saberes básicos propios del área de desarrollo de psicomotricidad en educación infantil a través de actividades desarrolladas en el aula sensorial con alta significatividad para el alumnado.

Respecto al grupo control, con el que se trabajará en el aula convencional, serán un total de 14 niños y niñas, 6 de ellos chicas, y 8 chicos cuya media de edad del grupo es 5,3 años $\pm$ 0,469. Se eligió esta muestra para desarrollar la experiencia fuera del aula sensorial en un aula tradicional trabajando los saberes básicos propios de la asignatura de psicomotricidad en Educación Infantil a través de actividades con alta significatividad para el alumnado.

Los datos se recogieron entre los meses de abril y mayo de 2024 en el contexto de la asignatura mencionada anteriormente. Para llevar a cabo la experiencia, se desarrolló a través de un grupo experimental con actividades en el aula sensorial planteadas por el profesorado de Educación Infantil y un grupo control, el cual desarrollará actividades en un aula convencional con los mismos saberes básicos desarrollados, pero con otra metodología relacionada con la

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psicomotricidad. El alumnado participante, desarrolló una serie de pruebas relacionadas con el desarrollo cognitivo, más concretamente con el esquema corporal, antes y después de las intervenciones de actividades físicas planteadas.

La muestra está constituida por un grupo de segundo ciclo de Educación Infantil de un centro concertado-privado donde encontramos. El contexto socioeconómico del centro educativo esta mayoritariamente establecido por la industria. El nivel socioeconómico de las familias del grupo de estudio mayoritariamente se posiciona en la clase media. El grupo control, se encuentra en un barrio algo más subdesarrollado donde hay algunas familias en riesgo de exclusión, el centro es público donde y el nivel socio económico y cultural está establecido en la clase media-baja.

No obstante, el cambio de valores y nivel socio económico hace más interesante la propuesta de mejora dentro del aula sensorial para el grupo experimental, puesto que, al tener más de nivel académico, se pone en un margen más pequeño a la hora de mejorar en los aspectos los cuales se va a evaluar dentro del esquema corporal.

Instrumentos

Respecto a la extracción y la posterior gestión de los conocimientos previos que tiene el alumnado ante una temática mediante la realización de cualquier tipo de prueba, permite saber el nivel de conocimiento inicial sobre una temática concreta (Yepes, 2013). Un instrumento diseñado de una forma adecuada puede contribuir a mejorar algunos factores muy determinantes como la motivación, la disposición ante el trabajo, el trabajo en equipo o la capacidad de indagación al ser un aspecto que es fácilmente comprensible por el infante (Martinez, 2002). Las pruebas pre-test y post-test son unas de las medidas que más se usan para analizar los diferentes factores en las investigaciones (Del Moral, 2013).

El instrumento que utilizará la investigación, es un análisis cualitativo de dibujos elaborados por el alumnado participante, puesto que se evalúa la propiocepción de los sujetos de estudio y en el que realizarán un dibujo su propio esquema corporal, el cual será evaluado de una forma cualitativa, valorando el detalle con mucha agudeza, se tendrá en cuenta si se produce alguna mejora en el detalle del dibujo como por ejemplo: rasgos de la cara, partes del cuerpo y cualquier detalle que este adherido a la temática de su propio cuerpo en el esquema corporal. Se basa en análisis es el número de rasgos corporales que se realizan en el pre-test y post-test.

Finalmente, estos datos recogidos en formato papel, serán analizados de manera cualitativa para comprobar si se ha mejorado la propiocepción en el aula sensorial, buscando fortalezas y debilidades de la estrategia para, en el caso de esta última, buscar soluciones eficientes y establecer una guía para uso adecuado en el área de psicomotricidad.

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Procedimiento

Respecto al procedimiento de intervención y recogida de datos como previamente se ha dicho anteriormente, se ha realizado una pre-test y post-test, que tenía lugar en el aula del alumnado media hora antes de que comenzaran la actividad propuesta en el aula sensorial, por otro lado, cuando acababan la actividad, se esperaba a que se relajarán y se hacia el post-test. La intervención constó de dos actividades diseñadas para fomentar el desarrollo cognitivo dentro del aula sensorial y dos fuera del aula sensorial.

En las actividades que se realizaron en sesiones de 45 minutos cada una, destacan los siguientes objetivos:

1. Desarrollar la conciencia corporal y la coordinación motora a través de actividades sensoriales y lúdicas.
2. Fomentar la interacción social y el trabajo en equipo entre los niños y niñas.
3. Estimular la creatividad y la expresión personal mediante el uso de elementos sensoriales.
4. Favorecer la integración sensorial y la exploración táctil y visual del entorno.

Respecto a los contenidos se expusieron los siguientes:

1. Identificación y exploración sensorial
2. Reconocimiento del cuerpo
3. Coordinación motora y equilibrio
4. Expresión y comunicación corporal
5. Relajación y autoconciencia

Las actividades propuestas se han realizado en un aula sensorial totalmente equipada con paneles manipulativos, baldosas sensoriales, baldosas flúor, un circuito de goma espuma, una piscina de bolas y varios materiales sensoriales.

En la primera actividad, los niños y niñas se dividieron en cuatro estaciones diferentes para hacer un circuito sensorial, en la primera estación se metieron en la piscina de bolas y debían buscar calcetines y guantes flúor y ponérselos en los pies y en las manos. Por otro lado, la segunda estación constaba de dos bandejas con bolitas de gomaespuma en las que tenían que buscar partes del cuerpo de un niño y reconstruir su cuerpo en una ficha, la tercera actividad los niños y niñas se maquillaban así mismo de forma guiada y se les iba diciendo: por encima de la boca, por las cejas, alrededor de los ojos... Para trabajar las partes de la cara, por último, había otra posta en la que debían hacer un circuito por el circuito de obstáculos de gomaespuma.

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Por otro lado, en la segunda actividad se desarrolló un cuento motor en el cual los alumnos/as ayudaban a una niña a recuperar las partes de su cuerpo. Cuento: https://docs.google.com/presentation/d/1SO68nduWQhfahka52gn1UIPXw5EeB-uE/edit?usp=sharing&ouid=112070359318027149450&rtpof=true&sd=true

después se realizó una actividad con globos guiada por el docente donde se les decía con qué partes del cuerpo tenían que darle al globo sin dejar que este tocara el suelo. Por último, se realizó la vuelta a la calma en la que, por pareja, guiados por el docente, tenían que darse masaje por las diferentes partes del cuerpo que les iban diciendo con una pluma

En el aula convencional, también se desarrollaron un total de dos sesiones en las que se trabajaba el esquema corporal, en la primera sesión se hizo un pequeño calentamiento en el que tenían que ir copiando las posturas que hacia el docente que trataban de trabajar la propiocepción como, por ejemplo: a la pata coja, con los ojos cerrados tocándonos la nariz... Después, también guiados por el docente, los niños y niñas cada vez con una parte del cuerpo debían de tocar un color que tuvieran cerca alrededor de la clase. Por ejemplo: Rojo con el dedo meñique, Amarillo con las rodillas… Por último, se puso música y a modo de relajación con los ojos cerrados se les iba guiando para que se hicieran masaje en las diferentes partes del cuerpo.

En la segunda sesión, se trabajó con globos, en la primera parte el alumnado tenía que pasarse el globo de unos a otros de diferentes maneras, por ejemplo: una vez recibido el globo pasarlo por detrás del cuerpo y devolverlo. La segunda parte constaba de una actividad guiada en la cual tenían que hacer que los globos no tocaran el suelo haciendo diferentes combinaciones cuando los empujaban para arriba, por ejemplo: mano, rodilla, mano… Por último, por parejas y con música, tendrán que pasarse el globo por todo el cuerpo haciéndose cosquillas a modo de relajación.

Es necesario aclarar que se ha respetado en todo momento la confidencialidad y no se han publicado nombres, direcciones o aspectos de la vida personal del alumnado. Respecto a las actuaciones éticas que se han llevado a cabo para la realización de la actividad, previo al comienzo, para poder tratar datos del alumnado como son los dibujos de los estudiantes se ha pedido autorización expresa a los padres mediante una circular. Así como autorización al centro, y en consecuencia el estudio ha sido aprobado por el Comité de Ética de la Investigación de la Universidad de Alicante.

Resultados

En cuanto a la búsqueda de datos cualitativos por parte del investigador, se reconoce que este es el principal instrumento. Por lo que, existe la subjetividad del investigador e investigado. Requiere un análisis constante de los datos e integra la descripción como un componente fundamental en la recolección de información. También demanda la negociación de decisiones atendiendo a consideraciones éticas (Martínez, 2004).

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Ya que los métodos y técnicas de análisis cualitativo de datos constituyen la base de este estudio, se tratarán con mayor profundidad en las siguientes secciones. Con lo que se refiere a este análisis cualitativo e interpretación de resultados se puede decir que es el momento más significativo de la investigación. No es un análisis basado en impresiones u observaciones superficiales de un contexto o de diferentes individuos, si no una calificación rigurosa y sistemática, aunque no necesariamente estandarizada (Taylor y Bogdan, 1990).

Los resultados obtenidos se han dividido en dos apartados principales (mejora y no mejora) del post-test en comparación con el pre-test. Sin embargo, se ha profundizado dentro de cada apartado en el nivel de mejora del dibujo o empeoramiento, dentro de la mejora vemos varios niveles que aluden al número de rasgos corporales adicionales que vemos en el segundo dibujo. En este caso, diferenciamos los siguientes basándonos en la mejora integral desde el análisis cualitativo al cuantitativo en el que nos hemos basado en uno de los ítems principales del Test de la Figura Humana de GOODENOUG (1926). Cantidad de detalles representados:

- 1 rasgo corporal
- 2 rasgos corporales
- 3 rasgos corporales
- 4 rasgos corporales
- 5 o más rasgos corporales

El otro apartado principal dentro de los resultados es la no mejora del dibujo, donde hemos dividido varios apartados:

- Igual: el dibujo no ha mejorado, pero tampoco ha empeorado
- 1 rasgo corporal: Disminución de 1 rasgos corporal de un dibujo a otro
- 2 rasgos corporales: Disminución de 2 rasgos corporal de un dibujo a otro
- 3 rasgos corporales: Disminución de 3 rasgos corporales de un dibujo a otro.
- 4 rasgos corporales: Disminución de 4 rasgos corporal de un dibujo a otro

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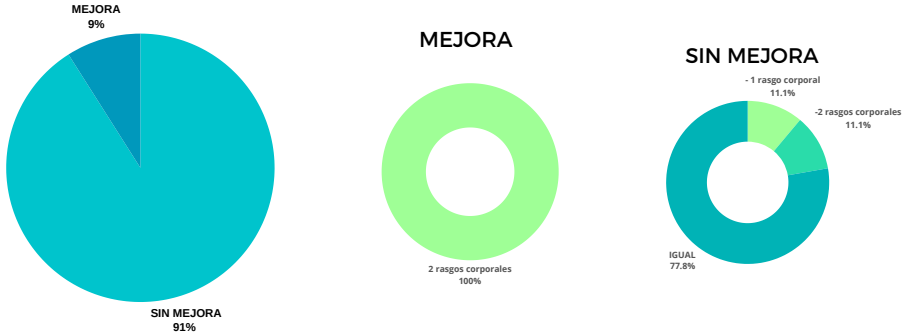
Figura 1: *Resultados cualitativos de la actividad 1 del grupo control*

En la actividad número uno en el grupo control, tal y como aparece en la figura 1, los datos arrojaron una mejora escasa en un porcentaje muy pequeño del grupo, además, en el alumnado que no mejoraron el dibujo, se observó una decaída en el número de rasgos corporales que representaban.

Figura 2: *Resultados cualitativos de la actividad 2 del grupo control*



La actividad número dos en el grupo control, detallado en la figura 2, fue algo más escasa en cuanto a la mejora, mayoritariamente, el grupo control represento un dibujo en la mayoría de los casos igual tras la intervención realizada y muy pocos mejoraron.

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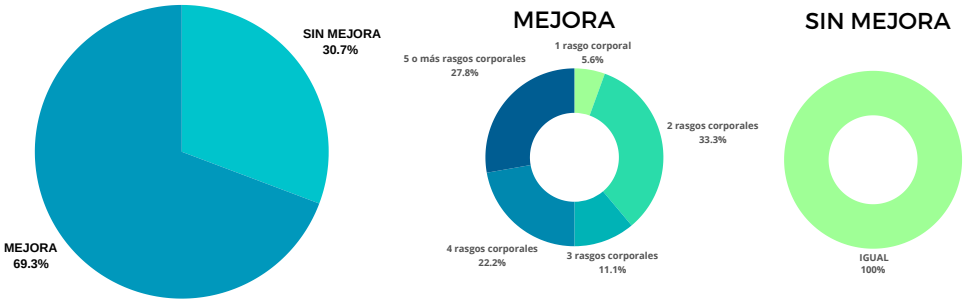
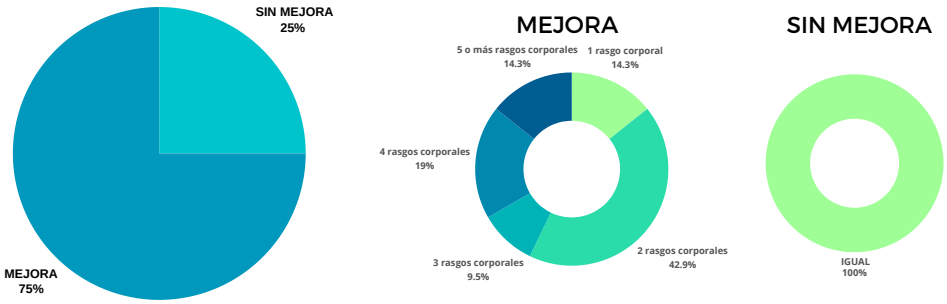
Figura 3: *Resultados cualitativos de la actividad 1 del grupo experimental*



Respecto al grupo experimental, representado en la figura 3, se observa una mejora representativa a favor del aula sensorial, puesto que más de la mitad, llegando casi a una siete décimas partes representaron el dibujo con más detalle después de la intervención. Además, de los estudiantes que no mejoraron el dibujo, ninguno lo empeoro.

Figura 4: *Resultados cualitativos de la actividad 2 del grupo experimental*



En la segunda actividad del grupo experimental, como refleja la tabla 4, la mejora fue notable, solo un cuarto de los sujetos no mejoró el dibujo, y además parte del porcentaje restante, mejoró el dibujo en 3 y 4 rasgos corporales adicionales frente al dibujo pre-intervención.

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Discusión

Nivel de los dibujos. Etapas

Tras el análisis de la adquisición de una mejora del dibujo sobre el esquema corporal, podemos aludir a la investigación de Viktor Lowenfeld y Brittain (1980), quien cree en una relación entre los planteamientos teóricos y prácticos del análisis del dibujo del cuerpo. Y une la psicología y la plástica. Los estudios realizados por este autor muestran la unión entre el cuerpo, la mente y el espíritu.

Así mismo propone seis etapas de desarrollo del niño en el arte:

1. Etapa del Garabateo, los comienzos de la autoexpresión: (2 a 4 años)
2. Etapa Preesquemática, primeros intentos de la representación: (4 a 7 años)
3. Etapa Esquemática, la obtención de un concepto de la forma: (7 a 9 años)
4. Edad de la Pandilla, el comienzo del realismo: (9 a 12 años)
5. Etapa Pseudonaturalista, la edad del razonamiento: (12 a 14 años)
6. Periodo de la Decisión, el arte de los adolescentes en la secundaria: (14 a 17 años)

Centrándonos en la etapa en la que se encuentran los sujetos de estudio (Etapa preesquemática). Según la autora Rhoda Kellogg (1979) a medida que el niño va creciendo en esta etapa el niño o niña va progresando en cuanto al dibujo de la figura humana. Así, a la cabeza se le añadirá un tronco, unos brazos y unas piernas, los cuales se representarán en forma de líneas o con grosor, con soles o cirulos al final que representarán las manos.

Los dibujos que se han observado en las intervenciones previas son dibujos por lo general adecuados para la etapa preesquemática. Se encuentran dibujos que reflejan los monigotes o renacuajos. (Anexo V) Pero también se ven dibujos tanto en el grupo de estudio como en el grupo experimental en los cuales el dibujo ya va acercándose a la forma humana real (Stassen, K. 2006). (Anexo VI).

No obstante, el estudio muestra en algunos de los sujetos una carencia en rasgos faciales como las cejas, pestañas, orejas, pies y demás extremidades tanto en el grupo experimental como en el grupo control. Que indica que enfrentarán dificultades para controlar su cuerpo y sus movimientos. Esto se debe a una falta de maduración psicofísica, ya que no hay una integración adecuada entre la maduración fisiológica y la intelectual (Wallon, 1984).

Sin embargo, la Integración Sensorial (IS) busca mejorar el rendimiento de los estudiantes/as, teniendo en cuenta las diferentes necesidades de los niños y niñas. Buscando soluciones innovadoras que cubran las necesidades sensoriales de los estudiantes (Senkow, 2018).

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Adquisición de una mejora del dibujo

Los resultados obtenidos en las muestras pre- y post-intervención han sido reveladores a favor del aula sensorial (grupo experimental). Donde se observa una mejora en un 69.3% de los dibujos en la primera sesión y un 75% en la segunda (Ver Anexo VII). Frente a la mejora del grupo control del 15.4% en la primera actividad y el 9% en la segunda (Ver anexo VIII). Por un lado, el bajo rendimiento del grupo control pudo estar definido por un bajo nivel de motivación que según B. Carrasco (2004) conlleva a un descenso del rendimiento académico y de la correcta consecución de las sesiones. Sin embargo, las actividades que se realizaron fueron actividades pensadas pedagógicamente con un alto grado de implicación por parte de los alumnos en un ambiente propicio y condiciones positivas. (Thoumi. S, 2003), con móviles como globos, que son muy motivantes en estas edades.

La Intervención el aula sensorial obtuvo una mejora en los resultados de hasta 6 veces más que en el aula convencional, evidenciando la rápida reacción cognitiva de los infantes mejorando la representación de su esquema corporal tras la intervención. Cuando los alumnos o alumnas representan las figuras humanas sobre el papel, no dibujan lo que han visto en los cuerpos, dibujan lo que conocen sobre él, por lo tanto, no, en el post-test no realizaron un trabajo estético, realizaron un trabajo intelectual, ofreciendo un repertorio conceptual. Lo que lleva al pensamiento de la creciente mejora del desarrollo cognitivo en el grupo experimental (Goodenough, 1981). Como en la investigación “Estrategias de integración sensorial en la educación infantil (Mora, Y. Et Al. 2020)”. Que reveló la mejora del desarrollo cognitivo a través de la integración sensorial. En esta investigación fue predominante el empleo de estrategias sensoriales, para demostrar que en un contexto en el que las situaciones sensoriales son primordiales para el desarrollo psicomotor del niño o niña, que se suman a la curiosidad y el placer del niño por la experiencia sensorial. (Camacaro, 2013).

Conclusiones

El programa de intervención a través del aula sensorial provocó una mejora significativa con respecto a la intervención en el aula convencional aceptándose la hipótesis planteada al principio de la investigación.

Los resultados subrayan la efectividad de las estrategias de Integración Sensorial (IS) en la mejora del rendimiento cognitivo y la representación del esquema corporal, la mejora ha sido significativa dentro del aula sensorial donde los estudiantes han demostrado un mayor grado de consecución y mejora de los tests post-intervención.

Propuestas de futuro

Habiendo demostrado la eficacia del aula sensorial en Educación Infantil, una continuación adecuada para este trabajo podría ser una investigación que valore el desarrollo de las diferentes actividades sensoriales que se pueden realizar dentro de un aula sensorial. Ya que no hay estudios existentes que organicen y cuestionen la coherencia de la investigación.

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ORIGINAL ARTICLE

Reimagining Higher Education: The Necessity for Transformational Change

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Abstract

The concept of transformational change in higher education has become increasingly significant in my reflections, especially in the context of ever-evolving global economies, rapid technological advancements, and shifting societal expectations. I believe that transformational change goes beyond incremental improvements; it requires deep, systemic shifts that reimagine and restructure Higher Education Institutions (HEIs) to meet the complex challenges of today's world. This essay explores the key dimensions that I consider essential to this transformation, including interdisciplinary education, the integration of digital technologies, and the promotion of lifelong learning. It also examines the underlying forces driving this change, such as globalization and the demand for generic skills, which have fundamentally altered the landscape of higher education. Finally, I offer some strategies to facilitate this transformation, emphasizing the importance of flexible governance, faculty development, and student empowerment. I argue that by embracing these changes, HEIs can better prepare students for a dynamic and interconnected future.

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Introduction

In recent years, I have observed significant global trends reshaping higher education, fundamentally altering how Higher Education Institutions (HEIs) operate and how students learn. One of the most impactful trends, from my perspective, is the increasing digitalization of education. The rise of online learning platforms, artificial intelligence tools, and digital resources has drastically shifted how knowledge is delivered. No longer confined to the physical classroom, students now engage in flexible, technology-driven environments. My experiences in countries like Israel and China have highlighted how rapidly universities are adopting these technologies.

For example, in China, the integration of AI in classrooms and online platforms has enabled personalized learning on a massive scale. Additionally, I observed a deep culture of self-regulated learning and self-discipline among undergraduate students in this country. Many of these students demonstrate a strong ability to manage their own study schedules and adapt to new learning tools without constant supervision. How can other regions, such as Latin America, match this pace of technological adoption and foster similar levels of self-discipline, while maintaining their unique educational values? I see this shift as a critical moment for universities to redefine their roles and approaches to education delivery.

Another equally important trend that I've witnessed is the growing demand for interdisciplinary education. The traditional, discipline-specific models are becoming obsolete as global challenges like climate change and social inequality demand solutions that span multiple fields of expertise. From my standpoint, fostering interdisciplinary collaboration is crucial for equipping students with the diverse skills, including generic competencies, they need to address real-world issues, thus enriching the educational experience and enhancing their problem-solving abilities. My time working with universities in Latin America has underscored the importance of this shift.

In my experience, working in countries like Colombia and Mexico, I have seen a promising shift as HEIs begin to dismantle the academic silos that have long limited their potential. These silos often create barriers not only for the institutions themselves but also for their faculty, staff, and—most critically—students, along with the wider community they aim to serve (Mizuta, 2022). I believe that breaking down these divisions is essential, as it opens up new pathways for cross-disciplinary research, enabling fresh approaches in critical areas such as the development of generic skills, sustainability, and social innovation. Witnessing this change firsthand has reinforced my belief that embracing a more collaborative, interdisciplinary mindset can greatly enrich both the educational experience and the real-world impact of research. But are these efforts enough to meet the complexity of today's challenges? How can HEIs ensure that such interdisciplinary initiatives translate into real-world impact rather than remain as isolated academic projects?

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Globalization, in my view, has also played a transformative role in reshaping higher education. The increasing interconnectedness of universities worldwide has intensified cross-border student mobility, faculty exchanges, and research collaborations. During my time in Israel, I noticed how international partnerships significantly enriched the research landscape, allowing for diverse perspectives and innovative approaches. Similarly, in China, collaborations with Western universities have enhanced research capabilities and broadened the academic dialogue. However, my experiences in Latin America reveal a more nuanced reality - while globalization offers opportunities for collaboration, it often comes with the challenge of aligning with global standards without losing sight of local relevance. Can Latin American universities leverage their unique cultural and regional insights while integrating into a global academic network? I see this trend as both an opportunity and a challenge, one that requires a delicate balance between adopting global best practices and preserving the local context that enriches the educational experience.

Finally, I recognize the growing emphasis on lifelong learning. The rapid pace of technological advancement and job market shifts has made it clear to me that education can no longer be seen as a one-time event confined to one's youth. Rather, I believe that universities must now cater to learners at all stages of life, offering short-term courses, online certifications, and flexible pathways for continuous skills development. During my visits to universities across different regions, including Latin America, I have seen a clear desire among adult learners to re-skill and adapt to new technologies. In Israel, the culture of lifelong learning is deeply ingrained, with many professionals returning to universities to gain expertise in emerging fields like cybersecurity. How can other regions adopt this culture of continuous learning to remain competitive in a globalized market? Based on these global trends, I argue that transformational change in higher education is not just necessary, but critical to restructuring educational models, governance, and learning and teaching practices to meet 21st-century challenges. The question is not whether change is needed, but how HEIs can embrace this change effectively to serve a more dynamic and interconnected world.

Transformational change in higher education

Transformational change involves profound, systemic shifts that fundamentally alter how HEIs function. This concept has gained traction as educators and institutions strive to meet the evolving demands of students, industries, and global markets, adapting to rapid technological advancements and shifting societal expectations. According to Kotter (2007), transformational change is distinguished by its depth and long-term impact, transcending minor adjustments to radically reshape organizational operations and stakeholder interactions. It is a comprehensive process that reimagines educational models, governance structures, and the roles of educators, with the aim of fostering continuous learning, innovation, and adaptability. Such change requires strong leadership, a clear vision, and collaborative efforts across all levels of the institution to ensure that these new practices take root and thrive.

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I fully align with Kotter's perspective that transformational change in higher education requires deep, meaningful modifications that lead to significant improvements in educational quality, pedagogical innovation, and the relevance of academic programs. Kotter stresses that true transformation must extend beyond incremental changes, reshaping the foundational ways in which institutions operate. This resonates deeply with my own observations, as I have witnessed that simply updating curricula or adding new courses without altering the fundamental approach to teaching does not lead to genuine innovation. Transformation, as understood by both Kotter and myself, demands a rethinking of institutional culture, governance, and pedagogy.

In this context, I believe that the leadership style adopted to drive transformational change is pivotal. Effective leaders in higher education must not only cultivate a sense of urgency but also articulate a clear and compelling vision that motivates faculty and staff to embrace the change process actively. Leadership should align the institution's stakeholders, fostering a shared commitment to the change effort. Without leadership that prioritizes collaboration and innovation, attempts at transformational change risk being shallow and ineffective. In my experience, many educators remain attached to traditional methods like lectures, even when these methods may no longer serve the needs of today's students. True transformation requires leaders who are willing to challenge the status quo and encourage faculty to explore new teaching paradigms.

For an organization to thrive, it is critical that leaders select and implement a leadership style that maximizes productivity and engagement. The right leadership style not only creates opportunities within the organization but also involves employees in decision-making processes, fostering a sense of ownership (Torlak et al., 2021). Studies have shown that transformational and democratic leadership are particularly effective in driving success and improving organizational performance (Budur, 2020; Budur & Potura, 2021). However, without leadership that actively promotes collaboration, innovation, and a readiness to move beyond traditional norms, transformational efforts can easily become superficial and fail to produce lasting impact. I believe that genuine change lies in empowering both educators and students to adopt new roles in the learning process, where creativity, critical thinking, and adaptability are the cornerstones of a modern education.

Brandt et al. (2019) further emphasize the depth of transformational change, describing it as a radical process that influences the entire organization. Their perspective highlights that this change extends beyond surface-level adjustments, affecting core aspects such as institutional culture, operational practices, and the foundational beliefs that shape an institution's educational approach. From my perspective, this captures the kind of deep transformation that many universities are currently experiencing. Transformational change is not simply about updating curricula or incorporating new technologies; it involves fundamentally rethinking how knowledge is created, disseminated, and applied. For instance, transitioning from traditional lecture-based teaching to a

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more student-centered, technology-enhanced model represents a shift in both pedagogy and institutional identity. How can universities navigate such profound shifts while maintaining their academic rigor and foundational values? I believe that this question lies at the heart of the challenge of enacting transformational change.

The insights of Kotter (2007) and Brandt et al. (2019) underscore the importance of adopting a strategic and comprehensive approach to change. While Kotter's emphasis on creating urgency and a shared vision is crucial for building momentum, Brandt et al.'s focus on the deep cultural shifts required ensures that change is truly transformative. I believe that combining these perspectives allows HEIs to cultivate environments that are both adaptive and committed to excellence—spaces where innovation thrives and new ideas are welcomed. This blend of strategic vision and cultural transformation is what enables institutions to navigate the complexities of the 21st-century educational landscape effectively.

For more than a decade, I have used the term "transformational change" to describe the kind of deep structural shifts needed in teaching practices to cultivate more empowered, self-directed learners. Over the years, I have observed a growing awareness of the need for such change, especially as technological advancements and societal expectations demand more of educational institutions. However, I have also noticed that despite curricular updates and reforms at the meso-curriculum level, many of my colleagues remain anchored to traditional lecture-based approaches at the micro-curriculum level, which fail to engage students in the dynamic, interactive ways that transformational change promises.

In my view, achieving transformational change requires a shift in mindset across all levels of an institution, particularly among leadership and faculty. It is not enough to update curricula; there must be a holistic effort to transform the entire learning ecosystem. This means transitioning away from teacher-centered models toward student-centered approaches that prioritize active learning, critical thinking, and practical problem-solving. Unfortunately, many educators still see change as optional or incremental, which limits the potential for deeper transformation. The real challenge, in my experience, is overcoming the inertia that keeps faculty members within their comfort zones. Transformational change is inherently disruptive—it challenges established routines and requires educators to redefine their roles. Without a sense of urgency and strong transformational leadership, such efforts cannot succeed. For higher education to truly evolve, we must look beyond surface-level reforms and commit to reimagining what it means to educate in the 21st century. This requires institutional dedication, faculty development, and the courage to embrace innovative teaching methodologies that empower both students and educators.

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Curriculum reform

A key dimension of transformational change is rethinking the curriculum to make it more relevant to the demands of the 21st century. But what does it truly mean to reshape a curriculum in this era of rapid change? In my view, it involves moving away from rigid, discipline-specific programs toward more interdisciplinary approaches that equip students to address complex, real-world challenges. As Brown (2017) highlights, many HEIs continue to operate in silos, where departments work independently, interact minimally, and often struggle with conflicting definitions of foundational terms. This fragmented approach raises a critical question: is it truly meeting the diverse needs of today's learners? I believe that a more integrated, interdisciplinary curriculum is essential, particularly as students increasingly engage with learning across formal, non-formal, and informal contexts. This integration not only enriches their educational experiences but also prepares them to think beyond the boundaries of traditional academic disciplines.

How can universities adapt to the reality that learning happens beyond traditional classrooms—through online platforms, community engagement, and even social media? I think that adopting an interdisciplinary approach can bridge the gap between what is taught within HEIs and the skills students acquire outside of them. This shift is crucial, as today's global challenges, such as climate change and technological disruption, require solutions that draw from multiple fields of knowledge. Curriculum reform should also integrate digital literacy, global competencies, and sustainability as essential elements. How can universities ensure that students are not just specialists in a single discipline but well-rounded thinkers? By embedding these areas into the curriculum, we can better prepare students for the dynamic, interconnected world they will face upon graduation.

Faculty Development and Pedagogical Innovation

Transformational change cannot occur without faculty being equipped to navigate and lead these changes. But how can we motivate educators to adopt new teaching methodologies when traditional methods feel safer? For me, a critical component is ongoing professional development for educators, focusing on active learning, flipped classrooms, and experiential learning. Faculty need the tools and support to adopt student-centered approaches and to be more adaptive to the needs of diverse learners. This shift is crucial in breaking the cycle of traditional lecture-based teaching and moving toward a more engaging, interactive model that fosters critical thinking and creativity. In my opinion, the challenge lies not just in providing training but in creating a culture where innovation in teaching is valued and rewarded. How can institutions encourage this shift? Leadership and peer support play a pivotal role in fostering an environment where pedagogical innovation thrives.

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Governance and institutional flexibility

From my perspective, HEIs must adopt more flexible governance structures to facilitate transformational change. But is it possible to maintain academic rigor while encouraging agility? I believe that it is, but achieving this balance requires moving away from rigid, hierarchical decision-making processes and embracing more dynamic models that allow for rapid innovation and responsiveness to external changes. Traditional governance structures, with their slow, centralized decision-making processes, often struggle to adapt quickly to the new demands of today's dynamic educational landscape. This inflexibility can hinder the ability of institutions to seize new opportunities and address emerging challenges.

In my view, a more matrix-based structure - where different departments and functions work collaboratively across boundaries - could help HEIs meet the evolving socio-educational needs of the 21st century. Such a structure allows for greater fluidity in decision-making and fosters cross-functional collaboration. But how can universities shift from a hierarchical to a more matrix-oriented approach? I think it starts with empowering faculty, students, and staff to have a voice in governance, ensuring that diverse perspectives shape the strategic direction of the institution. This approach can foster a culture where leadership is more decentralized, enabling quicker responses to changes in the external environment.

How can HEIs achieve this balance between inclusivity and efficiency? I think a participatory governance model is crucial. When HEIs adopt a matrix structure, they create opportunities for stakeholders to contribute to strategic decisions, leading to a more inclusive and responsive institution. This model encourages collaboration between academic departments, administrative units, and external partners, breaking down the silos that often limit innovation. For instance, in my experience working with universities in Latin America, those that have adopted more fluid governance structures have been better equipped to introduce interdisciplinary programs and engage in international research collaborations. But can we find a balance between stability and the need for rapid adaptation? This remains one of the most pressing challenges for institutions today.

Leadership, in my opinion, should promote a culture of collaboration and continuous improvement, where experimentation and risk-taking are not only encouraged but seen as essential to adapting to the evolving educational landscape. A matrix structure can help HEIs maintain a commitment to academic excellence while fostering the flexibility needed to innovate and adapt. By embracing this governance model, HEIs can create an environment that is not only resilient but also capable of thriving amidst the complexities and demands of the 21st century. This, I believe, is the path forward for universities seeking to remain relevant and impactful in an ever-changing world.

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Technology Integration

I believe that the integration of technology into the learning environment is a vital dimension of transformational change. But how can we ensure that technology truly enhances learning rather than just digitizing traditional methods? In my opinion, digital tools can no longer be viewed as optional enhancements but must be fully integrated into the learning and teaching process. Whether through online platforms, artificial intelligence, or virtual reality, I think technology offers new opportunities for personalized learning, flexible delivery methods, and access to global resources. HEIs, in my view, need to invest in the infrastructure and training necessary to harness these technologies effectively, ensuring that they are used to enrich the learning experience, not simply replicate traditional models in digital form.

Moreover, I believe that the development of generic skills is crucial for effectively mastering new and emerging technologies. Why is it that some students excel in using new tools while others struggle to adapt? Skills such as critical thinking, problem-solving, adaptability, and digital literacy, in my opinion, enable students to navigate and make the most of advanced technological tools. As technologies continue to evolve at a rapid pace, I think that learners must be prepared to adapt and learn how to use these tools in diverse contexts. In my view, these generic skills ensure that students are not just passive consumers of technology but active participants who can leverage digital tools for innovation and problem-solving in their respective fields. By focusing on these competencies, I believe that IES can better prepare students for a dynamic and technology-driven job market.

Student empowerment and lifelong learning

Transformational change also requires a fundamental shift in how we view the role of students. I believe that students must be empowered to take ownership of their learning, moving from passive recipients of information to active participants in the educational process (Singh, 2011; Vera, 2021); . But how can institutions foster this sense of ownership among students? This empowerment should be reflected in opportunities for students to co-create their learning experiences, engage in project-based learning, and pursue individualized learning paths. Moreover, education should not end at graduation; institutions must foster a culture of lifelong learning, offering continuous opportunities for professional development and personal growth as students navigate their careers in a rapidly changing world. Can universities create a lifelong relationship with their students, guiding them through the evolving stages of their careers? I believe that such a shift is possible and necessary, ensuring that learning is a continuous journey rather than a finite stage.

A crucial element of student empowerment is the development of generic skills, such as critical thinking, communication, and problem-solving (Virtanen & Tynjälä, 2018; Vera, 2020; Vera & Tejada, 2020; van Ravenswaaij et al., 2022), which are closely tied to self-regulated learning. In my experience, when students are encouraged to develop these skills, they become better equipped to manage their own learning processes, set goals, and monitor their progress. But how can

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universities help students cultivate these self-regulation abilities? I think it involves creating environments that challenge students to reflect on their learning strategies and adapt them as needed.

For example, integrating self-assessment and peer feedback can be powerful tools for fostering self-awareness and autonomy. In this way, students not only gain valuable skills but also learn to navigate the uncertainties of both academic and professional contexts. Can a focus on self-regulated learning ultimately enhance students' readiness for the future? I believe it can, as it encourages learners to be proactive, resilient, and adaptable - qualities that are essential in a world where the ability to learn and adapt is as critical as any technical expertise. These core dimensions, in my view, are essential for higher HEIs to not only survive but thrive in an era of unprecedented change. By embracing these transformational approaches, we can create a more flexible, inclusive, and innovative educational environment that prepares students to face the complex challenges of the future. How can we ensure that these changes are not just short-lived trends but become embedded in the DNA of HEIs? I believe that through committed leadership, a willingness to embrace change, and a focus on both technological and human-centered growth, transformational change can become a lasting reality.

Recommendations for Implementing Transformational Change in Higher Education

Given the dynamic challenges and opportunities facing higher education in the 21st century, it is essential for institutions to adopt strategies that facilitate meaningful transformation. To remain competitive and relevant in a rapidly changing world, Higher Education Institutions (HEIs) must rethink their traditional structures and embrace new approaches that foster flexibility, inclusivity, and innovation. Based on insights gathered from diverse contexts, including my experiences in Israel, China, and Latin America, I recommend a series of strategies designed to guide HEIs through this transition. These suggestions are intended to support universities in adapting their governance models, curriculum, and teaching practices to better meet the needs of today's learners and the global landscape.

The following recommendations aim to provide a roadmap for HEIs seeking to navigate the complexities of transformational change (Table 1). By focusing on areas such as governance flexibility, interdisciplinary education, faculty development, and student empowerment, these strategies can help institutions create an environment where continuous improvement and responsiveness to emerging trends become the norm. I believe that by embracing these suggestions, universities can build a foundation for long-term success, ensuring that they not only meet but exceed the evolving expectations of students, faculty and society, as a whole.

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Table 1: *Strategies for implementing a transformational change*

Strategy	Description	Goal
Adopt a matrix-based governance structure	Transition to a matrix-based structure where departments collaborate across boundaries, enabling agility and rapid innovation.	Enhance institutional agility and adapt to new opportunities and challenges.
Integrate interdisciplinary curriculum design	Restructure academic programs to include interdisciplinary modules addressing global challenges like sustainability and social equity.	Equip students with diverse skills for complex real-world issues.
Foster faculty development and pedagogical innovation	Provide ongoing professional development for educators to adopt innovative teaching practices such as active learning and flipped classrooms.	Shift towards a more engaging, interactive teaching model.
Strengthen digital infrastructure and technology integration	Invest in advanced digital tools and online platforms to create technology-enhanced learning environments.	Facilitate access to global resources and personalized learning.
Promote a culture of lifelong learning and continuous skills development	Develop programs that cater to learners at different life stages, offering short-term courses and certifications.	Cultivate lifelong learning relationships with students.
Empower students as active participants in the educational process	Foster self-regulated learning by providing platforms for self-assessment and student-led projects.	Develop a sense of ownership and responsibility in students.
Build global partnerships and collaborative research networks	Engage in international research collaborations and faculty exchanges to diversify academic perspectives.	Leverage global knowledge and broaden academic dialogues.
Measure and evaluate progress continuously	Implement mechanisms for regular assessment of initiatives using data-driven insights.	Ensure continuous improvement and responsiveness to change.

Source: Own elaboration.

Conclusion

The landscape of higher education is undergoing a profound transformation, driven by the need to respond to global trends such as digitalization, interdisciplinary collaboration, globalization, and the growing emphasis on lifelong learning. In this context, Higher Education Institutions (HEIs) must adapt their structures, curricula, and teaching methodologies to remain relevant and impactful. The adoption of matrix-based governance models offers a way to balance the need for academic rigor with the flexibility required to seize new opportunities and address emerging challenges. By shifting decision-making processes away from rigid hierarchies, HEIs can foster a culture of agility, allowing them to navigate the complexities of the modern educational landscape.

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Additionally, the integration of interdisciplinary education, coupled with a focus on developing generic skills, ensures that students are equipped to tackle real-world problems with diverse perspectives. As I have observed in countries such as Israel, China, and throughout Latin America, this approach can break down academic silos and enrich the learning experience. These efforts must be complemented by a commitment to faculty development and the creation of digital learning environments that cater to the needs of today's tech-savvy students. The emphasis on digital infrastructure is crucial not only for delivering knowledge but also for supporting the self-regulated learning and adaptability that modern students need to thrive.

Ultimately, achieving transformational change in higher education requires a holistic approach that embraces student empowerment, fosters global collaboration, and cultivates a culture of lifelong learning. The strategies proposed above provide a roadmap for institutions seeking to align with these new realities. By embracing flexibility in governance, fostering interdisciplinary approaches, and investing in faculty and technology, HEIs can create environments that are both inclusive and innovative. This, in turn, positions them to meet the challenges and opportunities of the 21st century, ensuring that they continue to serve their students, communities, and the global academic community effectively.

Final reflection

In a world that is constantly evolving, the need for transformation in higher education has never been more pressing. As global challenges become more complex and interconnected, Higher Education Institutions (HEIs) must move beyond traditional practices and adopt innovative approaches that can prepare students for the realities of the 21st century. Transformational change is not simply about adjusting curricula or introducing new technologies; it is about reimagining the very essence of what education can be. I believe that by embracing more flexible governance structures, fostering interdisciplinary learning, and integrating digital tools, HEIs can create a dynamic environment that is responsive to both local and global needs.

However, the journey towards transformational change requires a willingness to challenge long-standing norms and to view education through a more holistic lens. It calls for leaders who are prepared to take risks, for educators who are eager to adopt new methodologies, and for students who are empowered to take charge of their own learning. This shift is not without its challenges, but the potential rewards—enhanced learning experiences, stronger connections between knowledge and practice, and more adaptable graduates—make it a journey worth undertaking. In my view, HEIs that embrace these changes will be better positioned to serve their students, their communities, and the world.

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Ultimately, the future of higher education depends on our collective ability to adapt and innovate. I invite institutions to see transformational change not as a daunting challenge, but as an opportunity to redefine their purpose and impact in an ever-changing world. By fostering a culture of continuous improvement, encouraging collaboration across disciplines and borders, and committing to lifelong learning, HEIs can ensure that they remain relevant, resilient, and capable of shaping a brighter future. The time for change is now, and together, we can build an educational landscape that truly meets the demands of the 21st century.

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ORIGINAL ARTICLE

Faculty members' Perceptions of Evidence-Based Nursing in a Chilean Private University

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Abstract

In recent years, Evidence-Based Nursing (EBN) has emerged as a key strategy for improving the quality of care and patient outcomes. Despite its importance, the integration of EBN into undergraduate nursing curricula continues to face significant challenges. This study explores nursing faculty members' perceptions of EBN implementation within their academic programs. Data were collected using a 25-item *ad hoc* questionnaire, targeting faculty members engaged in an active learning workshop at a private Chilean university (n = 40). Additionally, a thorough review of the nursing program's curriculum was conducted to evaluate the extent of EBN integration. Findings indicate that faculty members generally hold positive attitudes towards EBN, acknowledging its potential to enhance professional practice (M= 3.75). However, results also reveal that EBN is not yet systematically embedded within the formal curriculum. The study underscores the need for incorporating EBN methodologies into nursing programs and providing targeted faculty training to support its effective adoption in both academic and clinical settings.

Introduction

Given the challenges posed by the 17 Sustainable Development Goals (SDGs) of the United Nations, specifically SDG 3, which focuses on ensuring healthy lives and promoting well-being for all ages, Nursing as a practical science must prioritize evidence-based research. This approach is fundamental to the continuous development of the discipline, ensuring that nursing practices are grounded in EBN is a systematic process that involves developing a research question, locating the best available evidence, analyzing that evidence, and connecting it to the specific circumstances of patients.

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It then requires the practical application of this evidence, followed by continuous monitoring and evaluation of the outcomes to ensure that the best possible care is provided (Fiset et al., 2017; Mathieson et al., 2018). This process ensures that healthcare professionals can assess the effectiveness of their interventions and adjust them as necessary based on patient responses and new emerging evidence. By systematically evaluating outcomes, practitioners can identify areas for improvement and contribute to refining clinical guidelines. This iterative process, in which evidence is applied, outcomes are monitored, and adjustments are made, aims to bridge the gap between research and practice in clinical settings. Ultimately, it encourages a learning-oriented healthcare environment where clinical decisions are always informed by the most current and reliable evidence, enhancing both patient care and professional development..

This model represents a clinical practice approach that integrates the most recent and relevant research findings with the experience and judgment of clinical staff. It also takes into account the preferences and values of patients, leading to more personalized and effective care (Urure-Velazco, 2017). EBN is understood as a problem-solving framework that places patient care at its core, shifting from the traditional, one-size-fits-all model to a more tailored approach. This shift is inspired by the classic biopsychosocial model—a holistic perspective that positions the person at the center, accounting for biological, psychological, and social influences on health. Through this lens, care decisions become more patient-centered, ensuring that treatments align not only with clinical guidelines but also with individual patient needs and circumstances. The study aims to explore the integration of EBN by evaluating faculty perspectives and program curricula at two private Chilean universities.

Theoretical framework

The Higher Education Institutions (HEI) analyzed include a curriculum line for training in research methodology, typically composed of two or three courses. Additionally, it is observed that the research proposals or projects of nursing students tend to address general health topics, rather than focusing specifically on nursing care. In other words, a systematic and targeted emphasis on evidence-based nursing care is not observed within the academic programs. This dispersion of research topics, coupled with the structure of research methodology training as isolated courses, reflects a fragmented approach, as stated by Vera (2020). As a result, the comprehensive development of lifelong research competencies among future nursing professionals is not achieved. The lack of integration of research skills into all aspects of the curriculum means that students miss out on opportunities to fully develop the analytical and evidence-based decision-making skills needed for high-quality patient care.

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Moreover, within the educational model (meso-curriculum implementation) and in class planning (micro-curriculum implementation), there is a noticeable absence of interdisciplinary or transdisciplinary approaches. Such approaches are crucial for fostering the development of a wide range of competencies, including both specific skills related to nursing care and broader, more generic skills like critical thinking and teamwork. The lack of these integrative methods may suggest that the nursing faculty is not thoroughly acquainted with the Evidence-Based Nursing (EBN) model, leading to missed opportunities for more holistic training. This situation could further emphasize the complexity involved in embedding EBN within the curriculum. Implementing EBN requires educators to be not only aware of current research practices but also capable of adapting these practices into classroom and clinical training, making it a challenging endeavor for nursing education programs to address effectively.

EBN and students' professional development

EBN and Students' Professional Development

Roe-Prior (2022) argues that under the Evidence-Based Nursing (EBN) model, nursing professional development (NPD) practitioners play a pivotal role in translating theoretical knowledge into practical application. These practitioners actively integrate academic research, empirical evidence, and scholarly findings into everyday clinical practice, ensuring that patient care reflects the latest advancements in the field. By applying these elements, NPD practitioners not only enhance the quality of care delivered but also foster the ongoing professional development of nursing staff. This integration strengthens the nursing workforce's ability to adapt to new challenges and contributes to the continuous advancement of nursing as a dynamic discipline. The ability of NPD practitioners to serve as a bridge between theory and practice is crucial, as it complements EBN training, which has been shown to significantly enhance nursing students' knowledge, attitudes, and clinical skills.

Various findings indicate that evidence-based nursing (EBN) training significantly enhances nursing students' knowledge, attitudes, and skills, enabling them to make more informed clinical decisions (Black et al., 2015). EBN involves the integration of professional expertise with the best available empirical evidence, allowing nurses to apply proven practices when performing procedures. This approach emphasizes critical analysis of research data to ensure that care practices are updated and in line with the latest evidence. EBN also encourages students to engage actively with ongoing research and apply findings in practical settings, fostering a mindset of continual learning and improvement. By integrating these practices into their training, nursing students are better prepared to navigate complex clinical scenarios, leading to improved patient care and outcomes. This foundation is essential for fostering a culture of evidence-based practice within the healthcare field.

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Furthermore, EBN training encourages collaboration among nursing students and other healthcare professionals. As they learn to apply evidence-based practices, students often work in teams, discussing research findings and evaluating their applicability to patient care. This collaborative environment not only enhances their understanding of EBN but also helps them develop essential teamwork and communication skills, which are crucial in multidisciplinary healthcare settings. Additionally, engaging with evidence-based practices helps students appreciate the value of critical feedback, as they learn to adapt their approaches based on peer and mentor reviews. This openness to constructive critique fosters a growth mindset, helping them continuously refine their skills. Ultimately, EBN training creates a bridge between academic learning and real-world practice, preparing students to become adaptable professionals who are capable of responding to the complexities of patient care with agility and competence.

Impact on Patient Outcomes

Interestingly, evidence confirms that patient outcomes significantly improve when nursing practice is guided by evidence-based approaches (Black et al., 2015; García-García, 2017; Galiano et al., 2020). EBN has been shown to increase patient safety by ensuring that care decisions are grounded in the most current and reliable research findings. By basing clinical decisions on robust evidence, healthcare providers can minimize risks and avoid outdated or less effective treatments. Additionally, this approach leads to more consistent clinical outcomes, as standardized best practices are applied across various healthcare scenarios, reducing discrepancies in patient care. EBN also contributes to lowering healthcare costs by minimizing unnecessary interventions and focusing resources on the most effective treatments. Furthermore, it decreases variability in patient outcomes, ensuring that all individuals receive high-quality care tailored to their specific needs. This consistent application of evidence-based methods is vital for achieving sustainable improvements in healthcare services, benefiting both patients and healthcare providers alike.

Additionally, the application of EBN leads to improved efficiency in healthcare delivery, as care providers can make quicker, evidence-supported decisions that streamline the treatment process. This efficiency reduces the time spent on trial-and-error methods, allowing for more direct paths to effective patient care. By integrating EBN, healthcare facilities can also foster a culture of continuous improvement, where every member of the care team is encouraged to seek out and implement the best evidence available. This cultural shift can lead to reduced instances of medical errors and complications, further enhancing patient safety. Moreover, the emphasis on data-driven care encourages a proactive rather than reactive approach to patient management, identifying potential risks before they escalate into serious issues. As a result, EBN not only improves individual patient outcomes but also elevates the overall quality of care within the entire healthcare system.

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Challenges in Nursing Education

However, at the level of nursing education, knowledge acquisition is often derived from textbooks, traditional lectures, classroom instruction, online learning platforms, simulation exercises, and hands-on clinical experiences. Despite these diverse methods, research is frequently approached as a series of isolated courses rather than a cohesive, cross-disciplinary competency (fragmented approach). This can limit students' ability to integrate evidence-based principles into their clinical practice. In their influential book, "Evidence-Based Teaching in Nursing," Cannon and Boswell (2012) advocate for a more integrated approach, introducing evidence-based nursing education as a holistic, dynamic system. This system emphasizes the use of validated educational principles supported by robust research to elevate the quality of nursing education. By embedding evidence-based approaches throughout the curriculum, nursing programs can support the development of students who are well-prepared to apply these principles in diverse clinical settings.

In nursing education, adopting an Evidence-Based Nursing (EBN) approach presents significant benefits for both students and faculty. EBN emphasizes the integration of empirical research into clinical practice, ensuring that students are not only acquiring theoretical knowledge but also learning to apply the latest evidence to real-world healthcare situations. By embedding EBN throughout the curriculum, nursing programs can prepare students to critically evaluate research, improve patient outcomes, and foster continuous professional growth. Below are five key characteristics of EBN in nursing education that contribute to these benefits:

- **Holistic Integration:** EBN advocates for a cross-disciplinary, cohesive approach rather than isolated research courses. This enables students to develop a well-rounded understanding of how research informs practice across all aspects of nursing.

- **Critical thinking development:** EBN emphasizes the application of validated research, encouraging students to develop critical thinking and analytical skills that enable them to make informed, evidence-based decisions in clinical settings.

- **Dynamic and adaptive system:** The EBN approach is adaptable and dynamic, evolving with new research findings. This ensures that nursing education remains current, allowing students to stay updated on the latest best practices in healthcare.

- **Practical application of evidence:** EBN bridges the gap between theory and practice, ensuring that students are not only acquiring knowledge but are also learning to apply it in practical, hands-on clinical scenarios.

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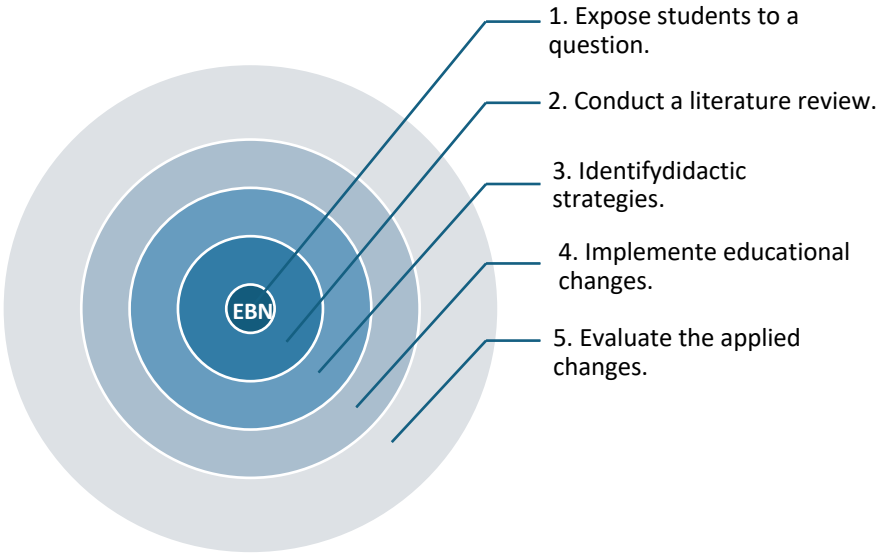
- **Enhanced educational quality:** By embedding evidence-based principles throughout the curriculum, EBN elevates the overall quality of nursing education, producing graduates who are well-prepared to face diverse and complex healthcare challenges.

Despite the potential benefits of a more integrated approach, implementing such a system faces several challenges. Faculty members may lack sufficient training in evidence-based methodologies, making it difficult to incorporate these concepts into their teaching strategies. Moreover, time constraints within the curriculum often prioritize core nursing skills, leaving limited space for the exploration of research skills. Additionally, the need for access to up-to-date research databases and other resources can be a barrier, particularly in institutions with limited funding. These factors can create a disconnect between theoretical knowledge and practical application, leaving students underprepared to utilize research findings in clinical settings. Addressing these challenges requires a concerted effort from educational institutions to invest in professional development, provide resources, and restructure curricula to foster a more research-oriented and evidence-based educational environment for nursing students.

Steps for Effective Implementation of EBN in Nursing Education

In their book, the authors propose a series of steps that are crucial for successfully implementing the EBN approach within nursing education (Figure 1).

Figure 1: *Implementation of the EBN approach*



Source: Own elaboration based on Cannon and Boswell (2012).

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As shown in Figure 1, the first step in implementing Evidence-Based Nursing (EBN) within nursing education involves presenting students with a clinical question or problem that requires investigation. This approach stimulates curiosity and helps students recognize the value of evidence-based practice in addressing real-world healthcare challenges. It establishes a foundation for inquiry and research, encouraging a mindset of continuous exploration.

Following this, students are guided to conduct a thorough review of existing research and literature related to the posed question. This step teaches them to identify relevant studies, critically analyze findings, and synthesize the best available evidence. It provides a solid basis for making informed decisions in clinical practice, allowing students to see how research translates into actionable knowledge.

Based on the insights gained from the literature review, educators work to identify effective teaching strategies that integrate evidence-based principles into the learning process. This may include using case studies, implementing simulation-based learning, or applying other instructional methods that align closely with the evidence. These strategies ensure that students can connect theoretical knowledge with practical applications.

Next, educators implement the selected didactic strategies within the curriculum or training programs. This step involves adapting teaching methods to actively incorporate evidence-based concepts into clinical skills training. The goal is to enhance students' understanding and ability to apply EBN principles directly within their practical learning experiences.

As depicted in Figure 1, the final step is to evaluate the effectiveness of the implemented changes. This involves gathering feedback from students, assessing their competency in applying EBN principles in clinical settings, and analyzing outcomes to identify areas for further improvement. Continuous evaluation is crucial to ensure that the curriculum remains aligned with the evolving best practices in nursing education, ultimately fostering a culture of evidence-based learning and practice.

From this perspective, the benefits of implementing EBN, specifically in nursing care, include the following:

- Obtaining a high volume of information in a minimal time;
- Performing procedures correctly using available standard methods;
- Choosing appropriate nursing care;
- Improving the quality of nursing care;
- Providing the most effective care services to patients at the right time; and
- Increasing user satisfaction, among others.

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Therefore, it is undeniable that if nursing students learn to apply EBP adequately during their training, they will be able to improve the quality of nursing services in any healthcare establishment once they graduate. Ideally, nursing schools should include teaching-learning strategies that promote EBN, whether through research articles, systematic reviews, or specific guidelines (Fiset et al., 2017). However, at the local level, it is observed that university nursing schools have not critically addressed research oriented toward care, as established by the Chilean National Accreditation Commission (CNA-Chile). Furthermore, in many undergraduate nursing programs, EBN is not taught as a strategy for clinical learning (Passalenti, 2006).

Indeed, when reviewing research proposals—as an academic requirement for graduation—the author found that in the 2014 and 2015 cohorts of the analyzed Higher Education Institutions (HEIs), 55% referred to care— a finding that would not allow for the advancement and development of this discipline. Moreover, in the absence of research policies that support and respond to current changes, it is challenging to see the disciplinary development of nursing as a practical science (Vera, 2018). Additionally, it is worth noting that in Chile, research is not typically among the traditional responsibilities of nursing staff. Specifically, the workday is mainly dedicated to direct patient care or administrative aspects of healthcare management.

Challenges in Implementing EBN

For this reason, nursing research is often placed in the background, despite its vital importance for the practice and development of the discipline. In this sense, literature shows that due to the workload, many nursing professionals cannot keep up with new evidence, while others perceive that they have moderate research skills (Pearson et al., 2012). This limitation affects their ability to engage with the latest research and apply it effectively in clinical practice. Other studies suggest that although training in EBN by experienced professionals is important, time availability remains a significant barrier to implementing this approach (Khammarnia et al., 2015; Mathieson et al., 2018). The lack of dedicated time for professional development restricts nurses' opportunities to improve their research skills and integrate evidence-based practices into their daily routines, ultimately impacting the quality of patient care and limiting the evolution of nursing as a research-driven discipline.

As with any new paradigm, barriers or difficulties arise during its implementation, primarily related to nursing professionals, such as a lack of motivation, low proficiency in English as a foreign language (L2), and difficulties in understanding statistics (Vera, 2020). Additionally, there is evidence of inconsistency between education and practice in the nursing discipline (Shayan et al., 2019). It is also estimated that, regardless of the primary roles of practice settings and even the country, most nursing staff are not prepared to undertake an EBN initiative, as they feel that their knowledge and skills are insufficient to implement this approach (Majid et al., 2011).

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Complexity of Implementing EBN

Objectively, the implementation of EBN is a complex process that requires professionals who are prepared and capable of considering resources and best practices from local, regional, national, and/or international contexts, in a sort of nursing benchmarking. As such, this approach demands reviewing the state of the art (recent studies, no older than five years), exclusively focused on nursing care as an element of patient satisfaction. Additionally, the implementation of new evidence-based practice models requires research into how good clinical practices have been applied in a given context. Specifically, this means investigating, implementing, and sharing experiences through Communities of Practice (CoP) and disciplinary conferences to enrich the model.

In nursing programs, EBN is considered a core component (Ruzafa-Martínez et al., 2016) and has been addressed since the 2000s, being strongly recommended in the United States (American Association of Colleges of Nursing, 2002), in Europe (Zabalegui et al., 2006), in Australia (Waters et al., 2009), and in Canada (Cable-Williams et al., 2014). In the United Kingdom, competence in EBN is mandatory for nursing courses (Brooke et al., 2015). Norway has been changing its Nursing school curricula to include it (Horntvedt et al., 2018). In Brazil, it is still in its early stages, although it is recommended in the Brazilian National Curriculum Guidelines for Nursing Degrees (Diretrizes Curriculares Nacionais de Graduação em Enfermagem – DCN) in editorials (Reichembach and Pontes, 2018) and in specific initiatives (Ferraz et al., 2020), indicating the need for its expansion.

Nursing programs and EBN

Additionally, when reviewing the accreditation criteria of the National Commission of Chile (CNA-Chile) for nursing programs, it is found that academic staff must have postgraduate training in their discipline as well as in university-level teaching (CNA-Chile, 2014). Regarding specific competencies, it is established that nursing units must provide care that encompasses the promotion, prevention, recovery, and rehabilitation of the health of individuals, families, and the community. However, despite these clear requirements, a detailed review of undergraduate nursing programs reveals that they do not yet include structured Evidence-Based Nursing (EBN) proposals.

Regarding generic competencies, nursing education should emphasize the cultivation of critical thinking, defined as the capacity to synthesize disciplinary knowledge, clinical experience, and analytical reasoning to make evidence-based decisions. This competency enables nursing professionals to effectively navigate complex and dynamic clinical environments, thereby enhancing their ability to deliver high-quality, patient-centered care. Furthermore, in the realm of research, it is imperative that the nursing unit consistently employs the scientific method as a core tool for the systematic analysis and resolution of the intricate challenges inherent to professional nursing practice.

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Additionally, nursing programs should implement an explicit policy that promotes and guides research activities, fostering a culture of inquiry and evidence-based practice, which is essential for advancing the discipline and ensuring that students are well-prepared for their future roles (CNA-Chile, 2014). Such policies should not only encourage research within academic curricula but also provide students and faculty with the necessary resources and support to engage in meaningful research endeavors. By embedding research as a core component of nursing education, institutions can help bridge the gap between theory and practice, enabling students to apply evidence in real-world clinical scenarios. Furthermore, promoting research excellence ensures that nursing professionals are equipped with critical thinking skills and a mindset geared toward lifelong learning, ultimately enhancing the quality of healthcare and driving continuous improvement in nursing practices.

As can be seen, a successful EBN proposal requires not only a personal commitment to quality care but also consistent institutional efforts that enable its implementation in the curricula of HEIs offering nursing programs and in healthcare centers at all organizational levels. Moreover, when implementing EBN, nursing staff should play a dynamic role at the unit level and, at the same time, be able to determine whether the available evidence is relevant for a particular patient. Therefore, it is necessary to promote critical thinking among nursing staff to balance the risks and benefits of alternative treatments for each patient, considering their unique clinical circumstances, including both their personal preferences and comorbid conditions.

Generic competencies in nursing

Regarding generic competencies, it is recommended that nursing education emphasizes the development of critical thinking skills. Critical thinking is defined as the ability to integrate disciplinary knowledge, practical experience, and analytical reasoning to make well-informed decisions in clinical settings. It enables nurses to adapt to rapidly changing scenarios and improve patient care outcomes by evaluating situations from multiple perspectives. In terms of research, it is outlined that nursing programs should equip students with the skills to apply the scientific method. This methodological approach is crucial for analyzing and solving the complex problems that arise in professional practice, fostering a deeper understanding of evidence-based care. Additionally, an explicit policy guiding and promoting research activities is considered essential to foster a culture of inquiry and evidence-based improvements (CNA-Chile: Chilean National Commission of Accreditation, 2014). This comprehensive focus on both critical thinking and research prepares future nurses to contribute actively to the evolution of nursing as a dynamic science and practice, capable of responding to emerging healthcare challenges.

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Beyond critical thinking and research skills, nursing education must also cultivate communication, teamwork, and leadership abilities as core generic competencies. Effective communication is vital for nurses to interact with patients, families, and interdisciplinary teams, ensuring that care is both collaborative and patient-centered. Teamwork skills allow nurses to work seamlessly within healthcare teams, adapting to different roles and responsibilities. Leadership, meanwhile, empowers nurses to advocate for best practices and initiate changes that improve care standards. These competencies not only enhance the immediate quality of care but also position nurses as key contributors in decision-making processes within healthcare systems. By embedding these skills within the curriculum, nursing programs can ensure that graduates are well-rounded professionals capable of adapting to diverse challenges in the healthcare environment.

Materials and Methods

From a positivist paradigm, this study follows a purely quantitative approach (Johnson et al., 2007), utilizing a non-experimental cross-sectional design (Green et al., 2006). The study has a descriptive scope and a field design, carried out at a private Chilean university with a national presence that offers a bachelor's degree in nursing. An Evidence-Based Nursing Questionnaire (EBNQ) was employed as the primary data collection tool. This instrument consists of 25 items, each rated on a five-point Likert scale ranging from "1 = Strongly Disagree" to "5 = Strongly Agree," with a possible total of 125 points. The questionnaire was self-administered online via a URL link, ensuring easy access and timely completion by participants.

The items are organized into three key dimensions: (i) Practice, comprising six questions for a maximum of 30 points; (ii) Attitudes, with four questions totaling 20 points; and (iii) Knowledge and Skills, consisting of 15 questions for up to 75 points. Additionally, the study included a thorough review of the graduation profile, nursing programs, and student research proposals, which are mandatory for graduation at the studied higher education institution.

The absence of an EBN approach in the current curricular design signals a missed opportunity to develop essential competencies among nursing students. Without structured exposure to the application of contemporary research evidence, future nurses may struggle to integrate findings into their clinical practice. This gap underscores the pressing need for a curriculum update that explicitly incorporates EBN as a foundational element, ensuring that students not only acquire theoretical knowledge but also master the skills necessary to apply it effectively in real-world healthcare settings, thereby fostering a culture of continuous learning and improvement in nursing care.

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Results

A total of 40 nursing professionals participated in the questionnaire, including 17 men (43%) and 24 women (57%), with an average age of 48 years (SD: 7). Among the respondents, 28 (70%) hold a master's degree, a proportion that falls short of the CNA-Chile's standards for academic staff qualifications, which emphasize the need for advanced education in faculty members. Geographically, the sample is distributed across the country, with 9 participants from northern Chile, 24 from central Chile, and 7 from southern Chile, representing 23%, 60%, and 18% of the respondents, respectively (Table 1). This demographic breakdown highlights the diversity of the participants, offering insights into their academic qualifications and regional representation. It also underscores potential areas for development, such as increasing access to higher education and fostering professional growth among nursing faculty members across different regions.

Table 1: *EBNQ results*

Items	Valid	Mean	SD
1. Regardless of my workload, I make time to review new evidence in my field.	40	3.57	0.93
2. I have no problem with my clinical practice being challenged against the evidence.	40	3.25	1.72
3. I like to apply new methods rather than the already tested ones.	40	3.47	1.30
4. It is not enough for me to hear something before applying it to my practice. I need to verify it against the evidence.	40	4.17	0.71
5. I contrast all my professional decisions with the evidence.	40	3.85	1.07
6. I am aware that to stay updated, I need to review studies that are no more than five years old.	40	4.32	1.18
7. I have sufficient research skills to find recent evidence.	40	3.67	0.99
8. I am competent in information and communication technology.	40	3.75	0.87
9. I monitor and review my practical competencies.	40	3.60	1.03
10.			

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Items	Valid	Mean	SD
11. I can easily turn the information I read into a research question.	40	3.17	0.95
12. I am aware that there are many types of information and sources.	40	4.65	0.66
13. I am skilled in identifying gaps in my clinical practice.	40	3.85	0.921
13. I know exactly how to collect recent evidence.	40	3.60	1.00
14. I can critically analyze evidence against established standards.	40	3.40	0.841
15. I can determine how valid (truthful) the material I read is.	40	3.80	0.966
16. I can determine how useful the material I read is for my clinical practice.	40	4.00	0.847
17. I can apply new information to individual cases.	40	3.75	0.95
18. I present my viewpoints objectively, based on evidence.	40	3.90	0.74
19. I share information about care with colleagues.	40	4.15	1.02
20. I have the ability to objectively assess my own practice.	40	4.17	0.93
21. How often do you formulate questions whose answers could fill a gap in your clinical practice?	40	3.40	0.87
22. After formulating a question, how often do you review relevant evidence?	40	3.42	0.95
23. How often do you critically assess established clinical practices based on evidence?	40	3.35	1.00
24. How often do you integrate the evidence found with your own experience?	40	3.72	0.93
25. How often do you share your experience of integrating evidence with your own practice?	40	3.47	1.08

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Regarding reliability, a Cronbach's alpha of 0.87 was obtained for the entire questionnaire, demonstrating the robustness and internal consistency of the instrument. This high value indicates that the items within the questionnaire are highly correlated, ensuring that the responses are reliable and consistent across different participants. Such a strong reliability score supports the use of the questionnaire as a dependable tool for measuring perceptions or behaviors in the context of evidence-based nursing practices, enhancing the validity of the findings derived from the collected data.

In a stratified analysis, it was observed that the faculty members of this HEI demonstrated a generally favorable perception of the various dimensions of Evidence-Based Nursing (EBN), as outlined in Table 2. The results suggest that faculty are open to the integration of evidence-based practices in their professional activities, reflecting positive attitudes toward its application in both academic and clinical settings. These findings highlight a solid foundation for the continued promotion of EBN methodologies within the institution.

Table 2: *Faculty Perception of EBNQ dimensions*

Dimension	Item Numbers	Mean	SD
Practice	1, 2, 4, 4, 5, 6	3.71	1.09
Attitudes	7, 8, 9	3.68	0.96
Knowledge and Skills	11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25	3.85	0.94

Based on the stratified analysis presented in Table 2, faculty members at the analyzed HEI exhibit a generally favorable perception of the various dimensions of the EBN approach. The Practice dimension, which includes items related to the application of evidence in daily clinical practice, achieved a mean score of 3.71 with a standard deviation of 1.09. This suggests moderate agreement among respondents regarding their use of evidence in practice, although the relatively high standard deviation indicates some variability in responses, reflecting differing levels of engagement with EBN across the faculty.

The Attitudes dimension, which encompasses items assessing the faculty's openness and inclination toward evidence-based approaches, yielded a mean score of 3.68 with a standard deviation of 0.96. This suggests a generally positive attitude among respondents toward EBN approach, indicating that faculty members are receptive to integrating evidence into their professional practices. Furthermore, the relatively low standard deviation reflects a consistent perception across the group, showing that most respondents share a similar viewpoint on the importance of EBN.

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The Knowledge and Skills dimension scored the highest, with a mean of 3.85 and a standard deviation of 0.94. This indicates that the faculty members feel relatively confident in their understanding and ability to apply EBN methodologies, reflecting a stronger foundation in these areas compared to the other dimensions. Overall, the results suggest that while faculty members perceive their knowledge and skills in EBN positively, there is still room for improvement in their practical application and attitudes toward integrating EBN into their professional practice.

Additionally, a thorough review of the nursing program curricula at the studied university reveals a notable absence of an EBN approach in any component of their training. While the curriculum includes courses on general research methodology, there is no explicit focus on integrating EBN principles into clinical practice or decision-making processes. This lack of emphasis limits students' exposure to evidence-based frameworks, which are crucial for improving patient care outcomes and aligning with international best practices in nursing education.

Furthermore, when reviewing the graduation profiles of the undergraduate nursing programs, it was found that both HEIs do not explicitly state EBN as a professional competence and/or a distinctive attribute for future professionals. Most research proposals from students at these HEIs are focused on the health field of other disciplines. On average, 70% of these proposals are oriented towards general health topics, and only 30% towards care, which is a pillar of nursing education. Specifically, of the 65 research proposals received in 2023 for the 2018 cohort at this HEI, 45 pertained to general health topics and 20 to care (69% and 31%, respectively).

The aforementioned findings appear to conflict with the specific competencies established by the CNA-Chile, which emphasize the integration of evidence-based practice in nursing education. Additionally, methodological weaknesses are evident in many of these student research proposals, particularly in their ability to link research to nursing care. These shortcomings suggest a need for targeted interventions in the research training provided to nursing students. Strengthening this area would better equip future professionals to conduct relevant and rigorous research that aligns with the core principles of nursing education.

After applying the EBNQ and analyzing the curricular aspects of the nursing education at this HEI, it is estimated that the results of this study could serve as a useful tool for evaluating nursing training curricula and incorporating evidence-based practice as a core strategy for improving the educational quality of nursing training programs, emphasizing care management, as established by the CNA-Chile. Additionally, the instrument could be used to assess the competencies of nursing professionals who teach in relation to their practice, thus stimulating interest in research and simultaneously promoting the development of critical thinking regarding the quality of nursing practice centered on evidence-based care.

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Conclusion

Although nursing faculty show a positive attitude towards EBN, certain limiting factors would prevent its implementation at the curricular level and, consequently, in practice. Among these are the need for EBN training for faculty, the lack of faculty members with postgraduate training, the presence of curricula focused on subject-specific instruction, lack of research skills among students, low proficiency in English as a foreign language (L2), lack of teamwork among faculty from a multidisciplinary perspective, and the need for leadership that facilitates change.

In this context, it is concluded that, regardless of the research methodology courses currently offered, nursing education should integrate research competence transversally throughout the curriculum. This approach would ensure that students develop research skills consistently across their academic experience. By doing so, nursing programs can better align with the focus on care established as a criterion for nursing research by the CNA-Chile, fostering a stronger connection between research and practical care, and enhancing the overall quality of nursing education and practice.

Finally, it is concluded that implementing EBN in the training curriculum requires a process of cultural adaptation, which should necessarily be gradual and participatory. To achieve this, it would be desirable for Chilean HEIs to reform and/or update their curricular proposals and for the management of healthcare centers in Chile to implement a comprehensive strategy to develop EBN competencies through an appropriate training program led by the national health authority.

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ACTUALIDAD

El **IV Congreso Internacional de Tecnología e Innovación Educativa (CITIE 2024)** es un evento dedicado a explorar y debatir las últimas tendencias y desarrollos en el ámbito de la tecnología educativa, con el objetivo de fomentar la transformación y la excelencia en la educación superior. Este congreso virtual se llevará a cabo de manera completamente virtual desde Chile, proporcionando un espacio único donde los participantes podrán sumergirse en un intercambio global de ideas.

CITIE 2024 convocará a líderes e innovadores de diversos rincones del mundo, ofreciendo una plataforma dinámica para compartir conocimientos, experiencias y estrategias que impulsen la evolución de la educación en la era digital. La agenda del evento abordará temas críticos relacionados con la implementación efectiva de la tecnología en la educación superior, destacando la importancia de la colaboración global, la sostenibilidad y la adaptabilidad en un mundo en constante cambio. Únete a nosotros mientras trazamos un camino colectivo hacia un futuro educativo digital y sostenible, en el cual la innovación y la colaboración se fusionan para construir un escenario enriquecedor para el aprendizaje y el desarrollo académico.

Ejes Temáticos:

- Inteligencia Artificial (IA) en la Educación
- Tecnologías Emergentes en EdTech
- Colaboración Internacional en Entornos Virtuales
- Sostenibilidad en Tecnología Educativa

NOTAS FINALES

Revista Electrónica Transformar® es una publicación científica, con sistema de pares ciegos, editada y publicada por Centro Transformar SpA, una consultora en gestión organizacional y educacional, con base en Chile, con la colaboración de investigadores chilenos y españoles. Como tal, cuenta con código ISSN 2735-6302. La abreviatura de título según las normas del ISSN es *"Rev. electron. Transform"*. Este último puede ser usado para efectos de citación y/o referencias bibliográficas.

Nuestra revista se publica tiene una periodicidad trimestral. Nuestro objetivo es mostrar las principales tendencias en educación y ayudar a diseminar las experiencias metodológicas del profesorado de educación primaria, secundaria y terciaria, a nivel nacional e internacional, permitiendo compartir sus mejores prácticas (*benchmarking*) de manera de potenciar y apalancar las competencias del estudiantado de cara a los desafíos del siglo XXI.

Para lograr nuestro objetivo, hemos definido las siguientes secciones principales: *Tendencias en educación, Experiencias docentes, Gestión educacional y Entrevistas*. Estas secciones serán desarrolladas con rigor académico, enriquecidas con los valiosos aportes experienciales del profesorado y dispuestas en la revista, según las necesidades editoriales. De este modo y teniendo como foco la construcción interdisciplinar del pensamiento pedagógico, ***Transformar*** busca el análisis de teorías y enfoques metodológicos de aprendizaje-desarrollo, la reflexión académica, la diseminación de conocimientos y el intercambio generoso de experiencias educativas. En este contexto, ***Transformar*** ofrece un espacio para el intercambio, la diseminación y promoción de la educación inclusiva y sostenible, relevando el paradigma del aprendizaje permanente (*life-long learning*) y el cuarto Objetivo de Desarrollo Sostenible (ODS 4) de las Naciones Unidas.

Actualmente, nuestra revista se encuentra corriendo bajo la plataforma Open Journal Systems.

Tipos de aportes: Artículos originales derivados de investigaciones, actividades educativas transformadoras, revisiones bibliográficas, experiencias educativas, ensayos y entrevistas de interés educativo, en idioma español, portugués e inglés.

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