



# **TESIS DOCTORAL**

# TEACHERS' ATTITUDES TOWARD THE INCLUSION OF AUTISTIC STUDENTS AND THE FACTORS THAT SHAPE THEM

# ACTITUDES DE LOS MAESTROS HACIA LA INCLUSION DE ESTUDIANTES AUTISTAS Y FACTORES QUE LAS CONFIGURAN

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# TITULO: ACTITUDES DE LOS MAESTROS HACIA LA INCLUSION DE ESTUDIANTES AUTISTAS Y FACTORES QUE LAS CONFIGURAN

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# INFORME RAZONADO DE LAS/LOS DIRECTORAS/ES DE LA TESIS



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Vaia Dalamitrou

## **TÍTULO DE LA TESIS:**

ACTITUDES DE LOS MAESTROS HACIA LA INCLUSION DE ESTUDIANTES AUTISTAS Y FACTORES QUE LAS CONFIGURAN

# INFORME RAZONADO DE LAS/LOS DIRECTORAS/ES DE LA TESIS (se hará mención a la evolución y desarrollo de la tesis, así como a trabajos y publicaciones derivados de la misma)

El trabajo efectuado por la doctoranda, de manera general, cumple con todos los criterios y requisitos de un trabajo de investigación de esta envergadura, para ser presentado y sometido a evaluación.

En el periodo temporal de cinco cursos académicos, dado que la matricula se produjo en 2019, se ha efectuado la tesis, este tiempo ha sido necesario por distintos factores, entre ellos, cabe destacar, las consecuencias derivadas de la pandemia sanitaria internacional (COVID-19). No obstante, ninguno de estos hechos ha imposibilitado que este trabajo de investigación tenga pérdida de validez y transferencia de conocimiento, muy al contrario, se ha visto favorecido al poner de manifiesto la exclusión y privación social del alumnado del espectro autista y la necesidad de conocer más sobre los métodos didácticos inclusivos que aplican e implementan los docentes en el aula.

Concretamente, la fundamentación teórica o revisión bibliográfica ejecuta una secuenciación de cómo se aborda las necesidades educativas en Grecia, particularmente con el estudiantado que presenta el trastorno del espectro autista, como se ha pasado de una educación asistencial a una inclusiva, como estas tendencias de entender el aprendizaje modifican el espacio social, es decir, la socialización de estos sujetos, para finalmente desencadenar en las esferas tecnológicas, políticas y pedagógicas que pueden verse involucradas y afectadas por este cambio de perspectivas educacionales.

La metodología, los métodos, materiales y el proceso de diseño, pone de relieve los condicionamientos y pautas de la investigación en el campo educativo, siguiendo el rigor y validez científica obligada para las investigaciones de carácter cuantitativo, a lo largo de los elementos de este apartado.

En referencia a los resultados se presentan con el fin de poder dar respuesta de manera coherente y fiable a los interrogantes planteados con la investigación, de manera clara y ágil.

La discusión y conclusiones consideran la basta fundamentación teórica que existe sobre la actitud de los docentes hacia la inclusión, argumentando y cotejando los resultados obtenidos con anteriores estudios.

Finalmente, señalar que, durante la ejecución de la tesis, se ha remitido un artículo a una revista científica, cuyo título es Exploring Teacher Perceptions and Influencing Factors in the Inclusive Education of Students with Autism: A Comprehensive Analysis, publicado en Operations Research Forum, SJR de 4º cuartil, cuyo DOI es https://doi.org/10.1007/s43069-024-00297-w.

Por todo ello, se autoriza la presentación de la tesis doctoral.

Córdoba, a 12 de abril de 2024

Las/los directoras/es

Fdo.:Carmen Siles Rojas & Verónica Marín Diaz

## RESUMEN TESIS DOCTORAL

# ACTITUDES DE LOS MAESTROS HACIA LA INCLUSION DE ESTUDIANTES AUTISTAS Y FACTORES QUE LAS CONFIGURAN

# Introducción

El entorno educativo moderno ha experimentado numerosos desarrollos a lo largo de los años, especialmente para satisfacer las necesidades de los estudiantes plurales que son estudiantes diagnosticados con autismo y otras discapacidades. A raíz de estos acontecimientos, los principios de la educación inclusiva han ganado más visibilidad; por ejemplo, la participación igualitaria y activa de todos los alumnos en las aulas generales. Esta investigación busca examinar aspectos multifacéticos de la educación inclusiva mediante el análisis de los fundamentos teóricos a través de marcos de políticas, así como las perspectivas sociológicas combinadas con consideraciones prácticas necesarias para la inclusión exitosa de estudiantes que fueron diagnosticados con algún tipo de discapacidad.

Capítulo 1 aborda la educación especial en el sistema educativo griego, sus objetivos y las estructuras de la educación especial en Grecia. Además, proporciona una introducción al concepto de autismo, Trastorno del Espectro Autista (TEA), un trastorno del neurodesarrollo caracterizado por desafíos en la interacción social, la comunicación y el comportamiento.

En el Capítulo 2, la investigación se centra en la educación inclusiva, un enfoque progresista destinado a eliminar barreras para la participación y promover una cultura de inclusión para todos los estudiantes, independientemente de sus habilidades o discapacidades. Este capítulo explora el concepto más amplio de una cultura inclusiva y las políticas educativas que respaldan o dificultan las prácticas inclusivas. Un objetivo clave de este capítulo es explorar el Diseño Universal para el Aprendizaje (DUA), un marco educativo que respalda

entornos de aprendizaje diversos, accesibles y equitativos. Al discutir el DUA, la investigación investiga cómo los principios de representaciones múltiples, compromiso y expresión pueden mejorar las experiencias de aprendizaje de los estudiantes con autismo y otras discapacidades. Se analiza el papel central de los educadores en la formación de aulas inclusivas, junto con las ventajas y desafíos asociados a la educación inclusiva. Al analizar las barreras de las políticas inclusivas, la investigación enfatiza la importancia de promover prácticas educativas inclusivas que aborden las diversas necesidades de aprendizaje de todos los estudiantes.

El Capítulo 3 adopta una perspectiva sociológica para analizar teorías de exclusión social, interacción simbólica y privación cultural. A través de este examen, la investigación busca comprender cómo las interacciones sociales, las creencias culturales y las estructuras sociales influyen en las oportunidades y obstáculos que enfrentan los estudiantes con discapacidades en su viaje educativo.

El Capítulo 4 se centra en la utilización de Nuevas Tecnologías en la educación especial y mejora de las experiencias de aprendizaje para los estudiantes con Trastorno del Espectro Autista (TEA). Explora el apoyo proporcionado a estos estudiantes a través de intervenciones tecnológicas, así como el uso y el papel de las tecnologías móviles y de asistencia en su educación. Además, se hace referencia a tecnologías inteligentes innovadoras en entornos de aula, haciendo el proceso de aprendizaje más efectivo e inclusivo para los estudiantes con TEA. También se hace referencia a la integración de la Inteligencia Artificial (IA), el Internet de las cosas (IoT) y la robótica en la educación especial, asegurando una inclusión más efectiva de los estudiantes con TEA tanto en las aulas como en la sociedad.

El Capítulo 5 se centra en la educación de los estudiantes con Trastorno del Espectro Autista (TEA), haciendo hincapié en la importancia de identificar y abordar obstáculos en el aprendizaje y adaptar enfoques pedagógicos para satisfacer sus necesidades específicas. El capítulo profundiza en los desafíos y oportunidades únicos asociados con la inclusión de

estudiantes con autismo en aulas convencionales, explorando las actitudes y la preparación de los educadores para su inclusión. La investigación destaca la necesidad de proporcionar a los educadores los recursos, la capacitación y el apoyo necesarios, así como fomentar la colaboración con especialistas. Además, el capítulo examina el papel del contexto cultural en la formación de las experiencias de los estudiantes con autismo, explorando el impacto de las creencias culturales y las actitudes sociales en su inclusión.

El Capítulo 6 describe el propósito de la investigación y las preguntas de investigación a explorar. Para lograr el propósito de la investigación, se examinaron las actitudes de 280 maestros de educación general y especial que trabajan en escuelas primarias generales y especiales o estructuras educativas en Grecia. La investigación empleó un método de muestreo selectivo para garantizar la confiabilidad del estudio. El instrumento utilizado fue un cuestionario estructurado que consta de dos secciones. La primera sección incluía información demográfica y general sobre los educadores, mientras que la segunda sección comprendía las 14 declaraciones de la escala Likert de 7 puntos del cuestionario "The Teacher Attitudes Toward Inclusion Scale (TATIS)", creado por Cullen et al. (2010).

El Capítulo 7 se centra en el análisis descriptivo de los resultados realizado con el paquete estadístico SPSS 23.0 (Statistical Package for Social Sciences). Inicialmente, se registran los resultados del análisis de las características demográficas, seguidos por los hallazgos del análisis de las actitudes de los educadores hacia la inclusión utilizando la escala de medición TATIS. Los resultados se presentan utilizando gráficos y tablas de frecuencias y porcentajes, donde se realizaron pruebas t, ANOVA y pruebas de correlación de Pearson a un nivel de significación del 5% (Bryman, 2016).

En el Capítulo 8, se discuten las percepciones y actitudes de los educadores hacia los estudiantes con TEA según lo revelado por los resultados de la investigación actual. Además, este capítulo se centra en las creencias de los educadores con respecto a la efectividad de la

inclusión, junto con los roles y funciones profesionales de los educadores que impactan significativamente en la educación inclusiva y la comprensión de sus prácticas.

Finalmente, en el Capítulo 9 se documentan las conclusiones y discusiones de la investigación, proporcionando un resumen de los hallazgos y analizando las correlaciones de los resultados. Además, se delinean las limitaciones de la investigación y se proponen recomendaciones para futuros estudios, con el objetivo de contribuir significativamente al campo de las prácticas inclusivas ofreciendo conocimientos más profundos, estrategias más especializadas y una comprensión extensa en diversos entornos.

Al sintetizar ideas de teoría, política, práctica y sociología, esta investigación tiene como objetivo contribuir al discurso continuo sobre la creación de entornos educativos inclusivos y justos. Un elemento central de este objetivo es la creencia de que todos los estudiantes, incluidos aquellos con autismo y otras discapacidades, tienen el derecho de aprender, prosperar y utilizar plenamente su potencial en entornos educativos inclusivos.

# Marco y Fundamentación teórica

# Capítulo 1: El Trastorno del Espectro Autista (TEA) y la educación especial

# 1.1 La educación especial en el sistema educativo griego

La educación especial moderna se basa en enfoques interdisciplinarios, centrados en la comprensión del alumno, sus habilidades y las barreras que enfrenta. El objetivo es empoderarlos como miembros autosuficientes de la sociedad a través de servicios educativos, de apoyo y de diagnóstico (McLeskey et al., 2017). La educación especial se dirige a los estudiantes cuyo desarrollo físico y mental se ve afectado por factores sociales e individuales.

Por lo tanto, la evaluación sistemática de los servicios dentro de la educación especial es vital para mitigar la discriminación y la exclusión (Slee, 2018).

Las estructuras de educación especial en Grecia están relacionadas con la provisión de enseñanza de apoyo para estudiantes con necesidades educativas especiales y la organización de clases especiales dentro de las escuelas regulares, las escuelas de educación especial independientes y las escuelas o departamentos de educación especial adjuntos a instalaciones médicas y terapéuticas para menores (Πολυχρονοπούλου, 2012). En algunos casos, los programas educativos se imparten a través del apoyo a las familias bajo la supervisión de funcionarios especializados.

## 1.2 El concepto del Trastorno del Espectro Autista (TEA)

El autismo, comúnmente conocido como trastorno del espectro autista (TEA), es una condición del neurodesarrollo compleja y multifacética que se manifiesta en la interacción social, la comunicación, junto con comportamientos repetitivos, como su nombre significa de la palabra griega "autos", que significa uno mismo. Su nombre se deriva además de la observación de individuos autistas que a menudo muestran egocentrismo o distancia hacia otras personas durante las primeras observaciones. El término ha tenido inicialmente connotaciones muy negativas, pero la investigación ha demostrado sin lugar a dudas que el autismo no solo significa trastorno de introversión, sino que abarca un cuadro sintomático heterogéneo, así como grados de gravedad (American Psychiatric Association, 2013).

Por lo tanto, la identificación temprana del autismo es fundamental para comprender lo que tal vez podrían considerarse intervenciones oportunas y efectivas que apoyen el desarrollo. Si bien algunos signos tempranos de TEA son evidentes en la infancia, el diagnóstico más confiable generalmente ocurre alrededor de los tres años a través de evaluaciones conductuales (Baio et al., 2018).

# Capítulo 2: Educación inclusiva

# 2.1 El concepto de cultura inclusiva

La cultura inclusiva es un sistema de principios y percepciones comunes, que determinan las actitudes y acciones de los miembros de una organización. En este contexto, la cultura inclusiva se centra en la construcción de una comunidad basada en la seguridad, la aceptación y la colaboración (Ainscow & Miles, 2008). En estas circunstancias, todos los miembros son bienvenidos y cooperan dentro de las normas de las estructuras democráticas, con respeto, aprecio y solidaridad. Por lo tanto, una cultura inclusiva presupone el respeto de los derechos humanos, la resolución justa de los conflictos, pero también la lucha contra todas las formas de discriminación.

En el caso de las escuelas, el papel de los docentes en el establecimiento de una cultura inclusiva es crucial, ya que están en el centro del proceso de aprendizaje (Todd, 2007). Por esta razón, es imprescindible la formación sistemática y la educación continua de los docentes, para hacer frente al miedo, la ignorancia y los prejuicios hacia todo lo nuevo y diferente (Carrington, 1999). Al mismo tiempo, el desarrollo de los docentes contribuye a la formación de una identidad profesional moderna e integrada, basada en el ethos, la cooperación y el respeto a la diversidad (Παπαπέτρου et al., 2013).

Además, el liderazgo de las unidades educativas es el principal vector para promover la cultura inclusiva, ya que está llamado a inculcar en los miembros de la comunidad educativa un sentido de igualdad, respeto y justicia (Παπαβασιλείου-Πυργιωτάκη & Πυργιωτάκης, 2015).

Es esencial involucrar e involucrar a los padres y a la comunidad en general cuando se trata de establecer una cultura inclusiva en las escuelas. Los padres refuerzan los valores de inclusión y aceptación en el hogar. Las escuelas pueden crear una relación positiva con los padres comunicándose regularmente con ellos, participando en la toma de decisiones y organizando eventos para celebrar la diversidad. Además, las escuelas pueden trabajar junto con organizaciones locales, empresas y líderes comunitarios para promover la inclusión más allá del aula a través de asociaciones que brindan recursos, apoyo y oportunidades para que los estudiantes se relacionen con diversas comunidades y aprendan sobre diferentes culturas y perspectivas (Landorf et al., 2023).

# 2.2 Políticas educativas y educación inclusiva

La educación inclusiva ha sido estudiada por muchos académicos, con el objetivo de promover a los estudiantes y su perfecta integración en el proceso de aprendizaje, en el contexto de una sociedad solidaria e igualitaria (Χαριτάκη, 2015). Por lo tanto, la heterogeneidad multinivel en el entorno escolar se manifiesta a través de los diferentes ritmos de aprendizaje, pero también a través de la posibilidad de integración en los procesos escolares (Καραμητόπουλος, 2015). Las investigaciones académicas revelan que, a pesar de que los educadores respaldan los principios que subyacen a la educación inclusiva, expresan reservas con respecto a su implementación pragmática (Πατσίδου-Ηλιάδου, 2011).

Además, es importante saber que la educación inclusiva va más allá de la integración de los alumnos con necesidades diversificadas. Abarca un cambio en todo el sistema educativo que abarca las políticas educativas, las prácticas de evaluación curricular y las metodologías de enseñanza. Por lo tanto, la educación inclusiva requiere una perspectiva sistémica que reconozca los contextos socioeconómicos más amplios que dan forma a las prácticas y políticas educativas Las investigaciones revelan que el éxito de la educación inclusiva implica tener una comprensión informada de cómo existen intersecciones entre los factores institucionales y sociales individuales (Florian & Black- Hawkins, 2011).

Un principio básico de la educación inclusiva, por lo tanto, es el compromiso de que todos los estudiantes vayan a la misma escuela, tengan los mismos maestros y profesores, y apliquen el mismo plan de estudios, que, sin embargo, cambiará de acuerdo con sus capacidades (Gupta & Rous, 2016). Por lo tanto, la inclusión tiene como objetivo gestionar las diversas necesidades de los estudiantes, con el fin de aumentar su participación en los procesos de aprendizaje y reducir la exclusión de los mismos (Angelides et al., 2006).

También es importante tener en cuenta que la educación inclusiva se produce a un ritmo dinámico y evolutivo y necesita ser monitoreada, evaluada y adaptada constantemente.

# 2.3 El papel de los docentes en la educación inclusiva

Los docentes se consideran el factor más cualitativo de la educación inclusiva, ya que tendrán que hacer frente a un papel más amplio, satisfaciendo las necesidades de un conjunto diverso de estudiantes. Una prioridad clave es gestionar el trabajo educativo de tal manera que se evite estigmatizar a los estudiantes con necesidades especiales o a aquellos de diversos orígenes culturales (Δόικου, 2000). Para ello, es necesario formarlos para que adquieran los conocimientos necesarios, pero también para que cultiven una cultura que promueva el respeto a la diversidad (Hammond & Ingalls, 2003). Al fin y al cabo, es responsabilidad del profesor conseguir que los alumnos con necesidades educativas especiales sean aceptados por toda la comunidad educativa para hacerles sentir que pertenecen a un grupo (Jakupcak, 1998).

Con el despliegue efectivo de estrategias de enseñanza, métodos de evaluación y recursos de aprendizaje, entre otras medidas, un maestro puede responder bien a las diferentes necesidades de varios estudiantes que tienen diferentes habilidades, intereses en el aprendizaje y diferentes estilos de aprendizaje. A través de los principios del Diseño Universal para el Aprendizaje (DUA), los maestros tienen acceso a la flexibilidad de seleccionar un plan de

estudios en el que todos los estudiantes, independientemente de sus fortalezas o debilidades individuales, puedan participar (Armstrong et al., 2011; Armstrong, 2010). UDL (Diseño Universal para el Aprendizaje) es un marco educativo que respalda entornos de aprendizaje flexibles que acomodan las diferencias individuales de aprendizaje al proporcionar múltiples medios de representación, participación y expresión (CAST, 2018).

En cualquier caso, la escuela moderna presenta una serie de retos importantes, que el profesor está llamado a gestionar, eligiendo métodos de enseñanza innovadores que promuevan la cooperación y la autorregulación (Patrick et al., 2007). A menudo, de hecho, se recurre al profesor para que colabore con otras especialidades de científicos implicados en el proceso de aprendizaje, como psicólogos escolares, profesores de educación especial o trabajadores sociales (Evans, 2000).

# 2.4 Ventajas de la educación inclusiva

El principal beneficio de la educación inclusiva es la interacción de los estudiantes con necesidades educativas especiales con toda la comunidad estudiantil, con el fin de evitar el aislamiento y la exclusión del proceso de aprendizaje (Smith et al., 2014). Además, se desarrollan actitudes positivas, ya que los estudiantes entienden, aceptan y tratan a los demás con respeto (Scruggs & Mastropieri, 2021). Así, los estudiantes desarrollan habilidades sociales y crean oportunidades para promover la socialización entre personas de la misma edad (Slee & Allan, 2001).

Las personas con necesidades educativas especiales adquieren más confianza y desarrollan una imagen positiva de sí mismas, mientras que la cooperación con el resto de la comunidad educativa es especialmente beneficiosa (Ainscow & Sandill, 2010). De hecho, se ha demostrado que los estudiantes con necesidades educativas especiales, que asisten a escuelas

formales, muestran un mayor rendimiento educativo, en comparación con los estudiantes que se integran a estructuras educativas especiales (Waldron & McLeskey, 1998).

Más específicamente, los estudiantes con Trastorno del Espectro Autista (TEA) en aulas inclusivas muestran mejoras en habilidades cognitivas y adaptativas. Este desarrollo positivo se atribuye a su capacidad para observar e interactuar con sus compañeros (Vivanti et al., 2019). Sus compañeros tienden a responder de manera socialmente adecuada, contribuyendo a los resultados positivos generales para los estudiantes con TEA en entornos inclusivos (Rattaz et al., 2020, p. 464).

Hay estudios que revelan que los maestros que trabajan en aulas inclusivas tienen menos probabilidades de reportar baja satisfacción laboral y realización profesional, ya que pueden ver directamente cómo sus esfuerzos están ayudando a los estudiantes a crecer y desarrollarse (McCray & McHatton, 2011).

En cualquier caso, la educación inclusiva no solo beneficia al alumnado con necesidades educativas especiales, sino también al resto del alumnado de la clase escolar, ya que promueve la sensibilidad social y la disposición a ofrecer, que son principios y valores importantes (Αγαλιώτης, 2009).

La investigación ha demostrado que las sociedades en las que la educación inclusiva tiene una mayor prioridad social tienden a demostrar bajos niveles de desigualdad social y un sentido mucho mayor de cohesión social (Armstrong et al., 2011).

#### 2.5 Prácticas educativas inclusivas

De acuerdo con el principio de la cultura inclusiva, todos son iguales y bienvenidos a participar en la sociedad y trabajar por el bien común. En este contexto, la escuela es considerada un pilar

clave de conexión con el entorno externo, promoviendo la diversidad como un elemento positivo para una sociedad (Nind, 2014).

Al mismo tiempo, la existencia de objetivos claramente definidos y alcanzables permite la identificación temprana de debilidades y la promoción de acciones de mejora, a través de la reflexión continua (Forlin, 1997).

En este contexto, el diseño universal para el aprendizaje tiene como objetivo satisfacer las necesidades de todos los alumnos en un aula y facilita la igualdad de acceso al conocimiento. Otra estrategia importante que se puede aplicar en un aula inclusiva es la instrucción diferenciada, que implica adaptar la instrucción en consecuencia para que satisfaga las necesidades de cada estudiante.

La recompensa y el estímulo también pueden motivar a los estudiantes a participar en el proceso de aprendizaje (Soriano & Staff, 2014).

Al mismo tiempo, el uso de aplicaciones tecnológicas, como narrativas interactivas, juegos digitales, recorridos virtuales, la integración de material audiovisual y mapas interactivos, aumenta el interés de los estudiantes, fomentando su participación igualitaria. Además, la co-enseñanza, en el contexto de la colaboración de más profesores para el enfoque holístico de la educación de cada estudiante, conduce a una mayor eficacia del proceso de aprendizaje (Bauwens & Hourcade, 1995). Por lo tanto, la inclusión se relaciona no solo con el ambiente de aprendizaje, sino también con las relaciones e interacciones entre los estudiantes, la metodología de aprendizaje y las actitudes de los docentes hacia la gestión de la diversidad (Sandoval & Messiou, 2022).

Además, las investigaciones han demostrado que la incorporación de la cultura, el idioma y las experiencias vividas de los estudiantes en el currículo puede mejorar su compromiso, motivación y logros (Gay, 2018).

Se ha descubierto que las escuelas con un clima inclusivo y positivo tienen más éxito en la implementación de prácticas educativas inclusivas y en la mejora de los resultados para todos los estudiantes, incluidos aquellos con discapacidades (Zynuddin et al., 2023).

# Capítulo 3: Enfoques sociológicos de la inclusión

#### 3.1 Teoría de la exclusión social

La exclusión social y la discriminación contra las personas con discapacidad por su participación en actividades sociales no pueden considerarse una cuestión de discapacidad per se, sino una cuestión de estructuras sociales. La exclusión social también puede adoptar la forma de aislamiento social, acceso a recursos o desigualdad de oportunidades. Estas formas de exclusión se atribuyen comúnmente a causas sistémicas y a actitudes predominantes hacia las personas con discapacidad debido a numerosos prejuicios arraigados en prácticas culturales, religiosas e históricas. Por ejemplo, se ha establecido que las personas con discapacidad experimentan mayores grados de aislamiento social que los miembros sin discapacidad (Hong et al., 2022). Esto puede dar lugar a que se formen más barreras contra ellos cuando no tienen oportunidades de desarrollo personal, de participar activamente en actividades comunitarias como lo hacen otros miembros de la comunidad o de integrarse socialmente en el entorno más amplio. Abordar estas cuestiones requiere un enfoque holístico que reconozca las barreras estructurales y actitudinales a la inclusión, teniendo en cuenta las necesidades, circunstancias, etc., particulares de las personas con discapacidad.

#### 3.2 La teoría de la interacción simbólica

La interacción se refiere al desarrollo de la actividad entre dos o más personas, en la que cada una actúa de acuerdo con la reacción esperada de la otra. La interacción constante, es decir, la interacción simbólica, contribuye a la creación de múltiples significados, con el objetivo de una mejor comprensión del entorno. Así, una imagen positiva de los demás y la recompensa de las acciones provoca sentimientos de orgullo, mientras que la imagen negativa y la desaprobación refuerzan la sensación de humillación. Por lo tanto, la autoimagen está influenciada catalíticamente por la influencia de los demás.

Por lo tanto, el hecho de que algunos alumnos sean clasificados como con necesidades educativas especiales se refiere principalmente a la forma en que son percibidos por los demás. La práctica de etiquetar y clasificar a los estudiantes de acuerdo con sus necesidades educativas especiales tiene en su mayoría ramificaciones positivas y consecuencias perjudiciales. Por un lado, el etiquetado puede actuar como una forma de herramienta de identificación para que los educadores identifiquen y proporcionen apoyos y adaptaciones para los estudiantes con discapacidades. Por otro lado, las etiquetas también son un refuerzo de los estereotipos que crean más estigma contra los estudiantes con discapacidades (Horne & Timmons, 2009).

En otras palabras, es una construcción social, que surge de la interacción de estudiantes y profesores, y el significado simbólico de la discapacidad depende de los valores sociales (Anastasiou & Kauffman, 2017).

## 3.3 La teoría de la privación cultural

De acuerdo con la visión de la privación cultural, el fracaso escolar está inextricablemente ligado a la familia del estudiante. Más específicamente, el rendimiento académico alto o limitado se debe a las creencias de los padres, la socialización, el uso del

lenguaje y los principios que un estudiante recibe de su entorno familiar. De esta manera, la familia es el componente principal para el desarrollo del proceso de aprendizaje.

Esta teoría de la privación cultural señala cómo la familia y el origen social influyen en el rendimiento educativo, pero ha sido rechazada por su determinismo, y es rechazada por los estudiantes de bajos ingresos o marginados por ello (Valencia, 2012).

Sin embargo, el reconocimiento de esto requiere la comprensión de que abordar la privación cultural en el sistema educativo depende de esfuerzos más amplios por parte de la sociedad para lograr las desigualdades sistémicas y hacer que los entornos de aprendizaje para todos los estudiantes, incluidas las escuelas y sus educadores, sean más inclusivos y diversos. Específicamente, las escuelas y los educadores deben adoptar enfoques basados en las fortalezas para reconocer y valorar el capital cultural, social y lingüístico altamente diversificado que los estudiantes aportan al aula (Wakefield, 2020). Además, la investigación ha subrayado la importancia de una pedagogía culturalmente receptiva y planes de estudio que reflejen las diversas experiencias, perspectivas y contribuciones de todos los estudiantes (Gay, 2018). Además, existe una necesidad adicional de desarrollo profesional y capacitación continua para los educadores en temas de diversidad, equidad e inclusión, como el desarrollo de la competencia cultural y la comprensión de cómo los sesgos implícitos pueden afectar sus actitudes, expectativas e interacciones con los estudiantes (Banks, 2008).

Capítulo 4: Aprovechar las nuevas tecnologías en la educación especial: mejorar las experiencias de aprendizaje de los estudiantes con TEA

# 4.1 Comprender del Trastorno del Espectro Autista (TEA) y las intervenciones tecnológicas

Las intervenciones tecnológicas, especialmente las tecnologías de asistencia e instrucción, forman un gran componente del apoyo que se brinda a estos estudiantes con TEA. Estas tecnologías ayudan a mejorar las capacidades funcionales de las personas con discapacidad, ayudándolas a adquirir aprendizajes con mayor efectividad. En este sentido, Caldwell (2019) dilucidó una visión general de las diversas formas de tecnologías de asistencia e instrucción que se ofrecen en el marco de la Ley de Educación para Personas con Discapacidades (IDEA, por sus siglas en inglés) y las formas en que se aplican para satisfacer las necesidades especiales de los niños con TEA. Esto implica herramientas que ayudan en la comunicación verbal y no verbal, las interacciones sociales y la adaptación al cambio. Estas tecnologías son importantes para ayudar a cerrar la brecha entre las habilidades de los estudiantes con TEA y el currículo que necesitan para hacer frente (Caldwell, 2019).

Estas intervenciones específicas basadas en la tecnología proporcionan soluciones de intervención específicas y personalizadas para los estudiantes con TEA que atienden a sus necesidades exactas en esa materia en particular y, como resultado, brindan a ese estudiante una mejor experiencia de aprendizaje e inclusión social a través del sistema educativo (Μαντά et al., 2020).

Shamir (2019) indica que las nuevas tecnologías en el proceso educativo apoyan diversas necesidades académicas. Además, la investigación demuestra además que tecnologías como iPads, computadoras portátiles y teléfonos inteligentes son fundamentales en la planificación de las lecciones, ya que facilitan el aprendizaje multisensorial necesario para procesos efectivos de enseñanza y aprendizaje. Para los estudiantes con TEA, estas tecnologías presentan una plataforma más interactiva que les atrae al tiempo que satisface sus necesidades

y estilos de aprendizaje de una manera más adecuada. Y una de las mejores cosas de estas tecnologías en el entorno de la educación especial es que pueden adaptarse a diferentes necesidades de aprendizaje y personalizarse para las demandas de aprendizaje individuales de los alumnos (Shamir, 2019).

Las áreas emergentes más llamativas abarcan la Inteligencia Artificial (IA), el Internet de las Cosas (IoT) y la robótica, que están remodelando la cara de la educación especial. Fotoglou et al. (2022) examinan el uso de tecnologías IoT en la educación especial, especialmente para estudiantes con TEA. Las tecnologías de esta naturaleza, mediante el uso de dispositivos portátiles y sensores inteligentes, proporcionan información en el momento a los educadores sobre los estados físicos, cognitivos y emocionales de sus alumnos, lo que les permite responder a los retos individuales a los que se enfrentan los alumnos. Los dispositivos IoT están capturando datos sobre el rendimiento y el patrón de comportamiento de los estudiantes, sujetos a enfoques educativos más personalizados basados no en la experiencia del profesor, sino en las posibilidades individuales de cada estudiante (Fotoglou et al., 2022).

# 4.2 El uso de las nuevas tecnologías en la educación especial

Las aplicaciones tecnológicas desempeñan un papel vital en el apoyo a los estudiantes con discapacidades. Pueden mejorar la concentración, mejorar la motivación, facilitar la interacción con los compañeros y promover el aprendizaje independiente y la automotivación. Al incorporar la tecnología, los estudiantes con dificultades de aprendizaje pueden ejercer un mayor control sobre su proceso educativo, buscar conocimiento y reducir las barreras para el aprendizaje a través de la interacción (Lin et al., 2016).

El uso de tecnologías modernas en la educación especial proporciona retroalimentación en tiempo real, mejora la interacción con el alumno y amplía las posibilidades para los educadores (DePriest, 2012).

El uso de la tecnología en la educación especial ha mostrado resultados positivos, con mayores tasas de éxito para los estudiantes con necesidades especiales (Δρακόπουλος & Σιούλας, 2019).

Las intervenciones tecnológicas se han movido recientemente hacia la inteligencia artificial (IA) y el aprendizaje automático (ML), revolucionando la forma en que se brinda apoyo educativo a los estudiantes con discapacidades cognitivas, físicas y otras discapacidades de salud. El software impulsado por IA puede proporcionar una experiencia de aprendizaje individualizada, anticipar el resultado del rendimiento de un estudiante y realizar tareas repetitivas automáticamente sin requerir una atención excesiva del maestro que, de otro modo, se asignaría a la instrucción personalizada (Ghosh et al., 2021). La inteligencia artificial tiene el potencial de revolucionar el aprendizaje adaptativo al proporcionar recomendaciones específicas para la entrega de contenido y evaluaciones, permitiendo a los estudiantes aprender a su propio ritmo (Kurniawati et al., 2014).

Además, las tecnologías IoT, el Internet de las Cosas (IoT), también ofrecen una variedad de aplicaciones en la educación especial. Estos se definen como dispositivos portátiles, sensores inteligentes y también dispositivos automatizados que ayudan a mejorar la experiencia de aprendizaje. Estas tecnologías brindan a los educadores la oportunidad de monitorear los estados físicos, cognitivos y emocionales de los estudiantes, al tiempo que les permiten ajustar sus estilos de enseñanza en consecuencia (Yuliawan et al., 2023). Los numerosos dispositivos IoT recopilan datos pertinentes sobre el rendimiento y los patrones de comportamiento de los estudiantes. La recopilación de tales detalles hace posible que uno

comprenda sus capacidades. Por lo tanto, permite a los docentes adaptar sus estrategias de enseñanza (Singh, 2021).

Y, de hecho, la robótica también ha encontrado un lugar dentro de las aulas de educación especial, otra tecnología emergente. Los robots programados por IA podrían interactuar con los estudiantes para complementar sus procesos de aprendizaje y desarrollo. Un estudio reciente mostró recientemente que los niños con TEA reaccionaron positivamente a los robots humanoides durante las sesiones de enseñanza, mejorando sus habilidades sociales e interacción con sus pares (Scarcella et al., 2023).

Por último, la realidad aumentada (RA) también ha sido útil en la educación especial. La RA hace que las cosas parezcan reales cuando pueden modificarse para adaptarse a las necesidades de cada estudiante (Baragash et al., 2020). Hace que las ideas serias sean más reales para aquellos que se encuentran atrapados en nociones complejas y les da una comprensión más clara de ellas a través de ideas aburridas y emocionantes. Las aplicaciones de RA están demostrando ser eficaces para mejorar las habilidades sociales y mejorar la inteligencia emocional entre las personas que padecen TEA en niños (Ramdoss et al., 2021).

# 4.3 El papel de las tecnologías móviles y de asistencia en la educación de los estudiantes con TEA

La integración de las tecnologías móviles y de asistencia en la educación ha transformado en gran medida las experiencias de aprendizaje de los estudiantes con Trastorno del Espectro Autista (TEA). Tanto las tecnologías móviles como las de asistencia proporcionan medios diversificados, eficaces y personalizados para abordar las necesidades educativas únicas de los estudiantes.

# 4.4 Tecnologías inteligentes innovadoras en el aula para mejorar el aprendizaje en niños con TEA

Shamir (2019) ha señalado que es necesaria la adaptación de las nuevas tecnologías, como las tabletas y los teléfonos inteligentes, en el proceso de enseñanza de estudiantes con diferentes tipos de necesidades académicas, incluido el TEA. El estudio destaca cómo estos dispositivos, creados a partir de diversos canales de entrada, ayudan al aprendizaje multisensorial, necesario para los estudiantes con TEA. En otras palabras, el uso de estas tecnologías en la educación es casi tan esencial como las herramientas tradicionales como los libros de texto y el lápiz para el origen de la lección (Shamir, 2019).

En resumen, para los niños con TEA, las tecnologías inteligentes en el aula ofrecen una amplia gama de beneficios. Las tecnologías refuerzan otros objetivos de aprendizaje tradicionales, pero están especialmente equipadas para los desafíos únicos de los TEA. Mejoran el compromiso, la interacción y la independencia, por lo que hacen que el proceso de aprendizaje de estos estudiantes sea eficaz e inclusivo.

# 4.5 Tendencias Emergentes: Inteligencia Artificial (IA), Internet de las Cosas (IoT) y Robótica en Educación Especial

El proceso de integración de la Inteligencia Artificial (IA), el Internet de las Cosas (IoT) y la robótica en la educación especial supondrá un gran avance en los procesos de enseñanza y aprendizaje, especialmente en los casos de niños con Trastorno del Espectro Autista (TEA). Las tecnologías utilizadas en esa área brindan enormes oportunidades para mejorar la calidad del proceso educativo, así como para liderar las crecientes necesidades individuales de los estudiantes y prepararlos para ser parte de la sociedad integrada en la tecnología.

La robótica educativa es cada vez más popular, ya que los educadores han reconocido un facilitador educativo para la educación especial. Oprea y Mocanu (2021) señalan además

que la introducción de la robótica dentro de los amplios marcos del currículo escolar, en particular la que emana de la educación STEM (Ciencia, Tecnología, Ingeniería y Matemáticas), inicia el pensamiento computacional, la creatividad y la innovación entre los estudiantes.

En resumen, la integración de la IA, el IoT y la robótica en la educación especial está garantizando la innovación y el desarrollo de métodos de enseñanza y aprendizaje eficaces e innovadores. Estas tecnologías no solo están mejorando la experiencia educativa de los niños que tienen TEA, sino que también les están impartiendo un conjunto de habilidades que son indispensables para que sean participantes exitosos en una sociedad impulsada por la tecnología. El potencial de estas tecnologías en la educación especializada, es decir, la educación especial y la formación especial para niños con TEA, posterior al progreso y desarrollo de esta tecnología con experiencias de aprendizaje personalizadas, interesantes e integrales, podría ser descomunal.

# Capítulo 5: Educación de los alumnos con TEA

# 5.1 Barreras a las políticas inclusivas

Las políticas y la educación inclusivas, ordenadas externamente por el espíritu de "una escuela para todos", aspiran a inducir un proceso participativo continuo entre todos los actores del aprendizaje con énfasis en el proceso de reducción de la marginación estudiantil (Acedo, 2008). Sin embargo, la implementación de estas políticas en todo el mundo enfrenta muchos obstáculos atribuidos a la variada diversidad de la población, sumada a las condiciones políticas, sociales y económicas únicas que dominan cada comunidad local (Messiou, 2017). Estas especificidades locales exigen intervenciones a medida que desafíen la replicación de una estrategia universalmente exitosa (García-Huidobro & Corvalán, 2009). Las aproximaciones

adoptadas en ocasiones con respecto a la educación de los estudiantes con discapacidad están influenciadas por los modelos de gestión de la discapacidad y las normas sociales de cada época, reflejando las creencias de la sociedad (Damianidou & Phtiaka, 2018). Además, cuando se implementan políticas inclusivas, estas políticas a menudo chocan con estereotipos sociales, prejuicios, actitudes racistas y creencias religiosas que prevalecen igualmente en el entorno escolar (Stylianou, 2017).

En los últimos años, ha habido un cambio hacia la adopción de un modelo social de discapacidad en la educación, reconociendo que los obstáculos para el aprendizaje y la participación son creados por actitudes sociales, políticas y prácticas en lugar de déficits individuales (Shakespeare, 2014). Esta perspectiva enfatiza la necesidad de eliminar barreras físicas, sociales y de comportamiento que obstaculizan la plena participación e inclusión de los estudiantes con discapacidades en el proceso educativo (Barton, 2009). Las escuelas pueden adoptar un modelo social de discapacidad proporcionando instalaciones accesibles, implementando estrategias de enseñanza inclusivas, promoviendo actitudes positivas hacia la discapacidad e involucrando a los estudiantes con discapacidades en los procesos de toma de decisiones (Goodley, 2014). Al desafiar y desmantelar las nociones tradicionales de "normal" y "anormal", las escuelas pueden crear entornos de aprendizaje más inclusivos y equitativos que valoren y respeten la diversidad de todos los estudiantes (Baglieri, 2012).

La actitud y las creencias que los maestros tienen hacia los niños con discapacidades influyen en gran medida en su compromiso y capacidad para desarrollar prácticas de instrucción diversificadas.

Las trabas burocráticas que implican requisitos de procedimiento que consumen mucho tiempo, en la mayoría de los casos, crean obstáculos a las iniciativas adoptadas por los docentes

para adoptar prácticas inclusivas y dejan poco espacio para adoptar la práctica de manera flexible (Γαβριηλίδου-Τσιελεπή, 2011).

Las actitudes de los padres también contribuyen en gran medida a que las percepciones negativas puedan aumentar la discriminación hacia los estudiantes con necesidades educativas especiales (Tange, 2016). Además, la escasa adaptación del currículo a la heterogeneidad de los estudiantes y la escasa adaptación de los materiales didácticos a los requisitos más diversos, como los de los hablantes no nativos o con discapacidad visual, discapacidad de aprendizaje o TEA, restringen la oferta de una educación inclusiva efectiva (Bhatnagar & Das, 2014; Fuchs et al., 2015). Además, la escuela debe asegurarse de que los patios de recreo y los espacios de interacción entre los niños en la escuela sean interactivos e inclusivos (Rose, 2010).

Es necesaria la formación de las partes interesadas en cuestiones de diversidad, ya que la falta de conocimientos puede obstaculizar el éxito de las políticas inclusivas establecidas (Jelas & Mohd Ali, 2014). Además, un requisito fundamental es que los educadores se familiaricen con sus estudiantes, reconozcan sus talentos y áreas que necesitan mejorar, y actúen como asesores y apoyadores para crear objetos de aprendizaje que satisfagan sus necesidades (Schwab & Hessels, 2015).

Las políticas sin exclusiones también pueden ser obstaculizadas por pruebas de alto riesgo y evaluaciones estandarizadas. Estas formas de evaluación a menudo no tienen en cuenta las diversas necesidades de aprendizaje de los estudiantes con discapacidades, poniéndolos en desventaja y perpetuando un ciclo de exclusión. Además, los educadores pueden sentirse presionados para centrarse en la preparación de exámenes en detrimento de otras prácticas educativas inclusivas. En este contexto, es esencial implementar formas alternativas de evaluación que sean sensibles a las diversas habilidades y necesidades de los estudiantes, y

proporcionar a los educadores la formación y el apoyo necesarios para la evaluación efectiva de todos los estudiantes (Simón Rueda et al., 2022).

En conclusión, aunque se formularon en un intento de atender a todos los estudiantes de manera justa, las políticas de educación inclusiva conllevan muchos desafíos. Los más amplios incluyen los factores socioculturales locales, las limitaciones burocráticas, las actitudes de los docentes, las limitaciones de los planes de estudio, así como la necesidad de una formación más completa de las partes interesadas. Lo que se requiere para superar estas barreras es un cambio sistémico, un liderazgo de apoyo y un compromiso para proporcionar un entorno de aprendizaje inclusivo. Al crear entornos de aprendizaje más inclusivos y adaptables, las escuelas pueden reducir los obstáculos enfrentados por los estudiantes con discapacidades y fomentar una experiencia educativa más inclusiva y equitativa (Florian, 2014).

# 5.2 Enfoques pedagógicos para estudiantes con TEA

A pesar de que el TEA se considera una forma de discapacidad de por vida, el enfoque pedagógico adecuado puede contribuir eficazmente a la mejora de las habilidades y el funcionamiento del individuo (Bάρβογλη, 2007). En este sentido, es necesario registrar y analizar las características que conforman las posturas del alumno, con el fin de sustituirlas por otras, que contribuirán a la mejora de su vida diaria. En este contexto, la interfaz entre los profesores y las familias de los estudiantes, con el fin de obtener datos sobre las habilidades e intereses particulares de los estudiantes, así como las causas de la insatisfacción de los estudiantes, es particularmente útil para formular el programa educativo apropiado (Appleton et al., 2008).

En estas circunstancias, el uso del arte, pero también del juego, en el enfoque pedagógico de los estudiantes con TEA contribuye al desarrollo de sus habilidades. Específicamente, según los resultados de la investigación, el juego tiene múltiples ventajas

cognitivas y sociales, principalmente para los estudiantes de preescolar y escolar (Αυγητίδου, 2001).

Las intervenciones para los niños que tienen TEA se centraron en las habilidades sociales y de comunicación, y una estrategia que parece estar ganando algo de terreno como potencialmente eficaz es el Modelo Provisional de Denver de Inicio Temprano (ESDM, por sus siglas en inglés). ESDM se refiere a un programa integral de intervención conductual para niños identificados con TEA. La población objetivo son los niños de 12 a 60 meses. Este programa amplía las estrategias de Análisis Conductual Aplicado (ABA, por sus siglas en inglés) bajo enfoques basados en el desarrollo y las relaciones dirigidos a apoyar el desarrollo de las habilidades sociales y cognitivas de los niños (Rogers et al., 2012). Una característica sobresaliente de ESDM es un enfoque en cultivar de manera positiva y significativa las relaciones de los niños con sus cuidadores, ya que estas relaciones se consideran críticas para un desarrollo óptimo.

De hecho, investigaciones más recientes han encontrado que la ESDM tiene un potencial increíble para mejorar el lenguaje y la comunicación, así como el comportamiento social, así como el funcionamiento cognitivo en niños con TEA (Rogers et al., 2017).

Aunque estos resultados alentadores son alentadores en general, la eficacia de la ESDM todavía depende de factores individuales como la edad, el nivel de funcionamiento cognitivo y la gravedad de los síntomas del TEA. Por lo tanto, si bien la ESDM puede ser una buena intervención para muchos niños con TEA, esta no es la definitiva para todos. El proceso de decidir qué intervenciones son las más adecuadas para un niño determinado debe implicar una evaluación cuidadosa y la misma consideración de las necesidades o fortalezas únicas de ese niño.

Otro factor que vale la pena considerar podría ser que la ESDM requiere un compromiso de tiempo colosal tanto por parte de los cuidadores como de los profesionales, ya que esto implica una formación intensiva además de sesiones de intervención frecuentes (Schreibman et al., 2015).

Del mismo modo, el arte tiene un efecto beneficioso en la educación de los estudiantes autistas (Rubin, 2005).

#### 5.3 Inclusión de estudiantes con TEA

La promoción de políticas inclusivas y el aumento del porcentaje de estudiantes diagnosticados con TEA ha llevado a un cambio en el marco legislativo, pero también al estudio sistemático de la importancia de integrar a los estudiantes en el entorno escolar y registrar buenas prácticas en esta materia (Leach & Duffy, 2009). La formación de un clima de aceptación y comprensión, pero, sobre todo, la educación de todos los implicados en el proceso educativo, contribuyen a la formación de una cultura de inclusión y a la adopción de una actitud positiva respecto a la integración de los alumnos con TEA en el proceso educativo. Las políticas inclusivas garantizan el acceso a la educación para todos los miembros de la sociedad, lo que tiene un impacto positivo en la interacción social de los estudiantes con TEA a través de la interacción diaria con los estudiantes de la escuela formal (Robertson et al., 2003).

En nuestro país, la integración de los estudiantes con TEA en las escuelas formales se apoya en la institución de apoyo paralelo de los maestros de educación especial, pero también en las clases de integración, en las que los estudiantes siguen un currículo especializado. A través de estas prácticas, se logra la colaboración de docentes de educación especial y general, con el objetivo de diseñar enfoques educativos, con el objetivo de conformar los objetos de aprendizaje de manera que satisfagan las necesidades y particularidades de los estudiantes con

TEA. La elección de la asistencia de los estudiantes depende de la gravedad de la situación y de las capacidades cognitivas, con el fin de garantizar el buen funcionamiento de la escuela, pero también de la capacidad de los estudiantes para cumplir con los requisitos del programa educativo (Jordan, 2005).

De acuerdo con los resultados de la investigación, tanto los profesores de educación especial como los de educación general reconocen la importancia de la cooperación entre ellos en el manejo de los casos de estudiantes con TEA en las clases escolares (Henderson et al., 2007). En cualquier caso, la inclusión es beneficiosa, no solo para los estudiantes con necesidades educativas especiales, sino también para los estudiantes de educación formal, ya que promueve la convivencia fluida dentro de la comunidad educativa y el respeto a la diversidad (Keefe & Moore, 2004).

En términos más generales, la inclusión de los estudiantes autistas en las escuelas de educación formal requiere la reconfiguración de los planes de estudio, pero también la formación de los docentes, para conocer tanto los mecanismos cognitivos de esta categoría de estudiantes como los métodos para promover sus habilidades sociales. Hoy en día, por lo tanto, las escuelas formales se esfuerzan por responder al creciente número de estudiantes con TEA, facilitando su integración exitosa en las clases de educación general (Ferraioli & Harris, 2011).

Otro factor clave para el éxito de la inclusión es la participación activa de los padres, quienes pueden ofrecer información y conocimientos valiosos sobre las fortalezas y necesidades de sus hijos, así como trabajar con los maestros para desarrollar e implementar intervenciones y apoyos efectivos (Stoner et al., 2005). Otros aspectos críticos incluyen la evaluación continua y el monitoreo del progreso para determinar el éxito de las intervenciones y la toma de decisiones basadas en datos para modificar la instrucción o los cambios en los

apoyos destinados a satisfacer las necesidades cambiantes de los estudiantes con TEA (National Autism Center, 2015).

#### 5.4 Actitudes de los docentes hacia la inclusión de estudiantes con TEA

En los últimos años se han realizado varias investigaciones en Grecia y también en Europa, a través de las cuales se ha intentado investigar las actitudes de los profesores con respecto a la posibilidad de incluir a los estudiantes con TEA en la escuela. Estos estudios apuntan hacia un panorama multifacético, influenciado posiblemente por factores como las condiciones económicas, el contexto cultural, la formación docente y la disponibilidad de recursos.

En Grecia, la investigación ha demostrado que, aunque existe un apoyo conceptual para la inclusión entre los educadores, su implementación real se enfrenta a varios obstáculos. Kossyvaki (2021) señaló la complejidad de esta cuestión teniendo en cuenta las peculiaridades culturales del país y las influencias de la reciente crisis económica. Este estudio señala que ha sido importante que el sistema contribuya en el proceso de formación de los docentes, en los roles familiares y en la actitud social, con el fin de hacer posibles prácticas inclusivas efectivas en las escuelas griegas.

En otro estudio griego, Giannoulis et al. (2021) se interesaron por explorar las necesidades formativas y el perfil actitudinal de los pedagogos griegos con respecto a la educación inclusiva relacionada con los alumnos con TEA. Aunque existe una creencia general en el princípio de inclusión, existen barreras prácticas a medida que la crisis financiera y los recortes presupuestarios en el ámbito educativo plantean profundos desafíos.

Por lo tanto, en conclusión, si bien todos estos estudios parecen apuntar a algunos principios generales de apoyo con respecto a la educación inclusiva, los desafíos prácticos actualmente limitan la implementación efectiva de la educación inclusiva tanto en Grecia como

en toda Europa. Algunos de estos desafíos incluyen obstáculos económicos, deficiencia en la formación integral de los docentes, así como diferentes actitudes hacia discapacidades específicas. Rectificar los desafíos mediante la formación específica de los docentes, el desvío de recursos y el cambio cultural es importante para aumentar la actitud y la práctica positivas hacia los estudiantes con TEA en lo que respecta a la educación inclusiva.

# Metodología

## Método de investigación

El propósito de esta tesis doctoral es investigar las actitudes de los profesores hacia la inclusión de estudiantes autistas (Gall et al., 1996).

Con base en el propósito anterior, surgen las siguientes preguntas de investigación:

- 1) ¿Existe alguna diferencia entre la demografía de los maestros y las percepciones de los maestros sobre los estudiantes con TEA?
- 2) ¿Existe alguna diferencia entre la demografía de los docentes y las creencias de los docentes sobre la eficacia de la integración?
- 3) ¿Existe alguna diferencia entre la demografía de los docentes y las percepciones de los docentes sobre los roles y funciones profesionales?
- 4) ¿Existe una relación entre las percepciones de los docentes sobre los estudiantes con TEA, las creencias de los docentes sobre la efectividad de la inclusión y las percepciones de los docentes sobre los roles y funciones profesionales?

Con base en el propósito de la investigación anterior, se optó por utilizar una metodología cuantitativa para responder a las preguntas de investigación (Creswell & Creswell,

2017). La investigación cuantitativa es apropiada porque se puede recopilar una gran cantidad de datos de forma rápida y sencilla, mientras que al mismo tiempo los datos se pueden procesar estadísticamente (Bryman, 2016).

## Participantes - Muestra

La población de investigación estuvo constituida por profesores de educación general y especial que trabajan en escuelas y estructuras educativas en Grecia. El método de muestreo utilizado fue el muestreo selectivo, ya que cuando la muestra seleccionada es representativa del total de la población puede proporcionar estimaciones y generalizaciones fiables para toda la población. Además, el muestreo selectivo permite recopilar datos de un subconjunto de la población y el proceso es más rápido que la recopilación de datos de toda la población, lo cual es útil cuando el tiempo de investigación es limitado. La muestra total estuvo conformada por 280 profesores y el rango de la muestra fue tal que garantizó la confiabilidad de la investigación (Cohen et al., 2018).

## Herramientas de recopilación de datos

La selección de esta herramienta de investigación se realizó con el fin de extraer conclusiones objetivas. Además, a diferencia de otros métodos de investigación, como la investigación cualitativa o los estudios de caso, esta metodología se basa en el conteo y análisis de los datos a recoger, asegurando la validez de las conclusiones (Bryman, 2016). Además, la herramienta de investigación utilizada es un cuestionario estructurado, que consta de preguntas cerradas y fue creado utilizando Google Forms. La primera sección del cuestionario consta de datos demográficos y generales de los docentes. La segunda sección del cuestionario examina las actitudes de los maestros hacia la inclusión de los estudiantes con TEA. En este apartado se utilizó el cuestionario "The Teacher Attitudes Toward Inclusion Scale (TATIS)", elaborado por Cullen et al. (2010) tras considerarlo adecuado para la elaboración de un cuestionario

propio y utilizado en la tesis doctoral de Wilkerson (2012) para evaluar las actitudes de los docentes sobre la inclusión de estudiantes con TEA. Esta escala consta de 14 afirmaciones Likert de 7/punto (1: Totalmente de acuerdo – 7: Totalmente en desacuerdo muy fuertemente). Las preguntas 1 a 6 son "Percepciones de los maestros sobre los estudiantes con discapacidades leves a moderadas", las preguntas 7 a 10 son "Creencias sobre la eficacia de la inclusión" y las preguntas 11 a 14 son "Percepciones de los roles y funciones profesionales". El tiempo para completar el cuestionario fue de 10 a 15 minutos, por lo que no fue agotador para los participantes y no dejaron de llenarlo (Creswell & Creswell, 2017).

# Recopilación de datos

Esta encuesta se realizó en el tercer trimestre de 2023. El cuestionario se aplicó a profesores de educación general y especial de todas las escuelas de Grecia. El cuestionario se administró electrónicamente a través de correo electrónico debido a la imposibilidad de realizar la encuesta en la vida real y para una mayor facilidad de acceso por parte de los participantes. Se pidió a los docentes que respondieran a todas las preguntas después de haber sido informados del propósito de la encuesta, y también se les garantizó el anonimato de sus respuestas (Fink, 2015).

En particular, el formulario de consentimiento establece que la encuesta se realiza únicamente con fines académicos y requiere la cumplimentación de un breve cuestionario. Además, se aclara que la participación es voluntaria y no se brinda remuneración, sin embargo, las respuestas son valiosas para extraer conclusiones, las cuales servirán de base para futuras investigaciones sobre el tema de la participación de estudiantes con TEA en la educación inclusiva. Además, se aclara que ninguna parte del cuestionario requiere la cumplimentación de información personal, como el nombre o la dirección, y las respuestas recogidas serán confidenciales y no se utilizarán para ningún otro fin que no sea la encuesta específica.

Finalmente, se aclara que los participantes tienen la posibilidad de dejar de completar el cuestionario, en cualquier momento, sin tener que justificar su decisión y que su anonimato está garantizado (Fink, 2015)

Los cuestionarios se enviaron por correo electrónico y se devolvieron en un plazo de 40 días. A continuación, se analizaron los datos recogidos

#### Análisis de datos

El análisis de los datos se realizó con el programa SPSS 23.0 (Statistical Package for Social Sciences). En primer lugar, la investigadora descargó la hoja de Excel con las respuestas de los participantes. Luego los codificó y los insertó en la hoja SPSS. A continuación, la investigadora realizó un análisis descriptivo con la ayuda de diagramas y tablas de frecuencias y porcentajes. Finalmente, se realizó la prueba t, ANOVA y correlación de Pearson, con un nivel de significancia del 5% (Bryman, 2016).

# **Resultados**

El propósito de la investigación anterior fue investigar las actitudes de los docentes hacia la inclusión de estudiantes autistas. En la encuesta participaron 280 docentes, en su mayoría mujeres, con edades comprendidas entre los 51 y los 60 años y con 20 años de experiencia. Además, la encuesta mostró que la mayoría de los participantes enseñan en una gran área urbana (Atenas - Salónica), son profesores de educación general y tienen un título de maestría. Además, la mayoría de los maestros no trabajan en una escuela especial, que más de 10 estudiantes diagnosticados con necesidades especiales y/o discapacidades asisten al aula y que han asistido a un seminario para apoyar a los estudiantes con TEA-AAF. Además, la mayoría de los docentes informaron que tienen experiencia específica trabajando o capacitando

a estudiantes con TEA-AAF, ya que son maestros en una escuela regular, que han participado en seminarios sobre la inclusión de estudiantes con necesidades educativas especiales y/o discapacidades, y que su conocimiento de la legislación y las políticas relacionadas con las personas con necesidades educativas especiales y/o discapacidades es promedio.

Con respecto a las percepciones de los maestros sobre los estudiantes con discapacidades leves a moderadas, se observa una opinión neutral por parte de los participantes de que la mayoría o todas las aulas separadas que atienden exclusivamente a estudiantes con TEA-AAF (Trastorno del Espectro Autista – Autismo de Alto Funcionamiento) deben ser eliminadas y que los estudiantes con TEA-AAF (Trastorno del Espectro Autista – Autismo de Alto Funcionamiento) rara vez necesitan ser retirados de las aulas regulares para satisfacer sus necesidades educativas. Los participantes también están de acuerdo en que todos los estudiantes con TEA-AAF (Trastorno del Espectro Autista – Autismo de Alto Funcionamiento) deben ser educados en clases regulares con compañeros sin discapacidades en la mayor medida posible. Además, los maestros están de acuerdo en que los estudiantes con TEA-AAF (Trastorno del Espectro Autista – Autismo de Alto Funcionamiento) pueden ser entrenados de manera más efectiva en aulas regulares en lugar de en clases de educación especial. Por último, los maestros están de acuerdo en que la inclusión es un modelo más efectivo para educar a los estudiantes con TEA-AAF (Trastorno del Espectro Autista – Autismo de Alto Funcionamiento) porque reduce el tiempo de transición (es decir, el tiempo requerido para la transición de un entorno a otro).

En cuanto a las creencias de los maestros sobre la efectividad de la inclusión, los maestros no están de acuerdo en que los estudiantes con TEA-AAF (Trastorno del Espectro Autista – Autismo de Alto Funcionamiento) no deban ser enseñados en clases regulares con estudiantes sin discapacidades porque le quitará demasiado tiempo al maestro. Los maestros tampoco están de acuerdo en que tengan dudas sobre la efectividad de incluir a los estudiantes

con TEA-AAF (Trastorno del Espectro Autista – Autismo de Alto Funcionamiento) en las aulas regulares porque a menudo carecen de las habilidades académicas necesarias para el éxito.

En cuanto a las percepciones de los profesores sobre los roles y funciones profesionales, los profesores coinciden en que estarían encantados de tener la oportunidad de enseñar en grupo como modelo a seguir para satisfacer las necesidades de los alumnos con TEA-AAF (Trastorno del Espectro Autista – Autismo de Alto Funcionamiento) en las aulas regulares. Los profesores también están muy de acuerdo en que todos los estudiantes se benefician de la enseñanza en grupo. Es decir, el acoplamiento de un maestro de educación general y un maestro de educación especial en la misma clase. Los maestros también están muy de acuerdo en que la responsabilidad de educar a los estudiantes con TEA-AAF (Trastorno del Espectro Autista – Autismo de Alto Funcionamiento) en las aulas regulares debe ser compartida entre los maestros de educación general y especial. Por último, los profesores están totalmente de acuerdo en que estarían encantados de tener la oportunidad de participar en un modelo de consejero educativo como medio para abordar las necesidades de los estudiantes con TEA-AAF (Trastorno del Espectro Autista – Autismo de Alto Funcionamiento) en las aulas regulares.

El estudio encontró que los docentes de entre 31 y 40 años tienen una mayor percepción de los roles y funciones profesionales en comparación con los docentes de entre 21 y 30 años. Asimismo, los docentes que tienen de 11 a 15 años de servicio tienen percepciones más positivas sobre la inclusión de los estudiantes con TEA en comparación con aquellos que tienen años de servicio de 0 a 5 años, de 16 a 20 años y más de 20 años. Además, los maestros que tenían años de servicio durante más de 20 años eran más propensos a estar de acuerdo en que los estudiantes con TEA tienen una integración más efectiva que aquellos que tenían de 6 a 10 años de servicio, de 11 a 15 años de servicio y de 16 a 20 años de servicio. Por último, los docentes que han tenido años de servicio de 0 a 5 años tienen una menor percepción de los roles y funciones profesionales en comparación con otros docentes.

Además, los docentes que enseñan en grandes zonas urbanas (Atenas - Salónica) tienen una mejor percepción de los estudiantes con discapacidades leves a moderadas en comparación con los docentes que enseñan en zonas rurales. Además, los docentes que enseñan en grandes zonas urbanas (Atenas - Salónica) tienen una mejor percepción de los roles y funciones profesionales de los docentes en comparación con los docentes que enseñan en zonas urbanas y rurales.

Además, los maestros de educación general tenían mejores percepciones de los estudiantes con discapacidades leves a moderadas que los maestros de educación especial. Los maestros de educación general también tienen mejores percepciones de los roles y funciones profesionales de los maestros que los maestros de educación especial. Aun así, los profesores con licenciaturas coincidieron en mayor medida en que los estudiantes con TEA tienen una integración más efectiva que los que tienen maestría. Además, los profesores que tienen un doctorado tienen una mayor comprensión de los roles y funciones profesionales que aquellos que tienen una maestría.

Además, los maestros que no trabajan en una escuela especial tenían una percepción menos mejor de los estudiantes con discapacidades leves a moderadas que los maestros que trabajan en una escuela especial. Además, los maestros que informaron que más de 10 estudiantes diagnosticados con TEA asisten a su escuela tenían menos probabilidades de estar de acuerdo en que los estudiantes con TEA tienen una integración más efectiva, en comparación con los maestros que informaron que su escuela tiene de 4 a 5 estudiantes diagnosticados con TEA y de 6 a 10 estudiantes diagnosticados con TEA. Asimismo, los docentes que no han participado en seminarios sobre la integración de estudiantes con necesidades educativas especiales y/o discapacidades tienen percepciones menos positivas sobre la inclusión de estudiantes con TEA en comparación con aquellos que han participado en seminarios sobre la integración de estudiantes con TEA en comparación con aquellos que han participado en seminarios sobre la integración de estudiantes con TEA en comparación con aquellos que han participado en seminarios sobre la integración de estudiantes con necesidades educativas especiales y/o discapacidades. Los

maestros que habían participado en seminarios sobre la inclusión de estudiantes con necesidades educativas especiales y/o discapacidades tenían menos probabilidades de estar de acuerdo en que los estudiantes con TEA tienen una integración más efectiva que aquellos que no habían participado en seminarios sobre la inclusión de estudiantes con necesidades educativas especiales y/o discapacidades. Por último, los docentes que han participado en seminarios sobre la integración de estudiantes con necesidades educativas especiales y/o discapacidades tienen una mayor comprensión de los roles y funciones profesionales en comparación con los docentes que no han participado en seminarios sobre la integración de estudiantes con necesidades educativas especiales y/o discapacidades.

Además, los profesores que tienen poco conocimiento sobre la legislación y las políticas relacionadas con las personas con necesidades educativas especiales y/o discapacidades tienen un mayor grado de actitudes positivas hacia la integración de los alumnos con TEA que otros. Por otro lado, los docentes que tienen poco conocimiento sobre la legislación y las políticas relacionadas con las personas con necesidades educativas especiales y/o discapacidades tienen un mayor grado de creencias positivas sobre la efectividad de la integración de los estudiantes con TEA. Por último, los docentes que tienen poco conocimiento sobre la legislación y las políticas relacionadas con las personas con necesidades educativas especiales y/o discapacidades tienen percepciones más positivas de los roles y funciones profesionales de los docentes que otros.

Además, a medida que aumentan las percepciones de los docentes sobre los estudiantes con discapacidades leves a moderadas, también lo hacen las creencias de los docentes sobre la eficacia de la inclusión. Por último, a medida que aumentan las percepciones de los profesores sobre los estudiantes con discapacidades leves a moderadas, también lo hacen sus percepciones sobre los roles y funciones profesionales.

# Conclusiones (limitaciones y líneas futuras de actuación)

### Limitaciones de la investigación

Si bien este estudio proporciona información valiosa sobre las actitudes de los docentes hacia la inclusión de los estudiantes autistas en Grecia, es importante tener en cuenta las siguientes limitaciones de la investigación.

En primer lugar, el estudio utilizó el muestreo selectivo como método de selección de los participantes. Esto se debió principalmente a la dificultad de realizar la encuesta y de cumplir con las limitaciones de tiempo de la encuesta. Por lo tanto, es posible que la muestra no sea totalmente representativa de todos los docentes de Grecia. El muestreo selectivo puede introducir sesgos, ya que no da a todos los miembros de la población las mismas posibilidades de selección. Como resultado, es posible que los resultados no se generalicen a todos los profesores de griego o a los de otros países (Creswell & Creswell, 2017).

En segundo lugar, el instrumento de investigación utilizado fue un cuestionario estructurado con preguntas cerradas. Si bien esto proporciona un conjunto estandarizado de respuestas, puede limitar la profundidad de la comprensión de las actitudes de los maestros. Las preguntas abiertas podrían proporcionar una comprensión más rica y matizada de los sentimientos y pensamientos de los maestros sobre el tema. Confiar en una escala de Likert, si bien es útil para cuantificar actitudes, a veces puede simplificar en exceso creencias complejas (Neuman, 2014).

Además, el uso de medios electrónicos para la recopilación de datos, si bien es práctico para el muestreo selectivo, puede haber presentado su propio conjunto de desafíos. Es posible que los maestros que se sienten menos cómodos o conocedores de la tecnología hayan optado por no participar o hayan tenido dificultades para completar la encuesta. Esto podría llevar a la exclusión inadvertida de un grupo demográfico específico de maestros del estudio.

El cronograma para completar la encuesta también puede presentar una limitación. Es posible que el plazo de 40 días para devolver las encuestas completadas no haya sido suficiente para todos los posibles encuestados, especialmente teniendo en cuenta la gran cantidad de desafíos que los maestros pueden enfrentar durante sus horas de trabajo. Esto puede haber afectado la tasa de respuesta y, por lo tanto, la representatividad de la muestra (Field, 2013).

Además, si bien SPSS es una herramienta poderosa para el análisis de datos cuantitativos, su uso depende de la entrada precisa de datos. Los errores en la codificación o en la introducción de datos pueden afectar a la validez de los resultados. Además, si bien las pruebas estadísticas utilizadas, incluida la prueba t de correlación, ANOVA y Pearson, son apropiadas para las preguntas de investigación, es vital recordar que la correlación no implica causalidad. Las relaciones identificadas en el estudio pueden no indicar necesariamente relaciones causales directas. Por último, inherente a cualquier medida de autorreferencia está la posibilidad de un sesgo de deseo social. Es posible que los maestros hayan respondido a las preguntas de una manera que creían que era socialmente aceptable o estaba alineada con las expectativas profesionales en lugar de sus verdaderos sentimientos.

En conclusión, si bien este estudio ofrece información importante sobre el tema, es importante interpretar los resultados con una comprensión de sus limitaciones. La investigación futura podría considerar un enfoque de métodos mixtos, que combine técnicas de recopilación de datos cuantitativos y cualitativos, para proporcionar una imagen más completa de las actitudes de los maestros hacia la inclusión de los estudiantes autistas (Neuman, 2014).

#### Recomendaciones para futuras investigaciones

El reciente estudio que examina las actitudes de los profesores hacia la inclusión de los estudiantes autistas presenta un mosaico perspicaz de hallazgos que, si bien es de amplio

alcance, inevitablemente destaca la necesidad de exploraciones más profundas y diversas en el futuro.

Se hace evidente que, si bien el presente estudio se basa principalmente en la información de educadores de entornos urbanos más amplios, como Atenas y Salónica, una vía importante para futuras investigaciones radica en la ampliación de la perspectiva geográfica. Una mayor participación de docentes de zonas remotas y rurales podría revelar desafíos y oportunidades únicos que ofrecen estos entornos, enriqueciendo nuestra comprensión de la educación inclusiva en diferentes campos. Además, si bien han surgido diferencias en las percepciones entre los maestros de educación general y los maestros de educación especial, sigue habiendo un vasto campo de experiencia exclusivo de los maestros de educación especial que esperan una exploración más profunda. Sus problemas específicos, sus necesidades de formación y sus puntos de vista sobre la integración podrían ser objeto de un estudio más profundo.

El desarrollo profesional surgió como un factor importante en la configuración de las perspectivas de integración de los docentes. Futuras investigaciones podrían profundizar en los efectos longitudinales de la formación periódica sobre las competencias y actitudes de los docentes, evaluando la sostenibilidad y la profundidad de estos impactos. Además, si bien las percepciones sientan las bases, la comprensión de la traducción tangible de estas creencias en las prácticas en el aula sigue siendo crucial. Los estudios futuros podrían utilizar métodos observacionales para extraer información sobre los métodos de enseñanza, las estrategias para la inclusión entre iguales y la gestión eficaz del aula adaptada a entornos inclusivos.

Desde una perspectiva centrada en el estudiante, comprender los resultados académicos, emocionales y sociales de los estudiantes autistas en entornos inclusivos proporcionará una perspectiva completa sobre los beneficios y desafíos reales de la inclusión. Esto también ayudaría a cerrar la brecha entre las actitudes de los maestros y las experiencias

tangibles de los estudiantes. Además, la correlación entre el conocimiento de los docentes sobre la legislación y las políticas y sus actitudes pone de relieve otra dimensión interesante. Puede ser fundamental una exploración específica de cómo una mayor concienciación sobre las políticas podría mejorar las prácticas inclusivas y qué políticas específicas tienen el mayor impacto.

Sin lugar a dudas, el liderazgo escolar juega un papel central en la configuración de la cultura y las prácticas de las instituciones educativas. Una exploración de las actitudes, creencias y estrategias adoptadas por los líderes escolares, en comparación con los antecedentes de las actitudes de los docentes, podría revelar estrategias de arriba hacia abajo que promuevan la inclusión. También hay un valor innegable en mirar más allá de las fronteras geográficas. A medida que las prácticas inclusivas ganan impulso en todo el mundo, los estudios transculturales pueden ofrecer una nueva perspectiva, revelando matices culturales que influyen significativamente en las actitudes y prácticas de los docentes.

Los enfoques longitudinales para estudiar la evolución de las actitudes y prácticas en el contexto de la evolución de las normas sociales, las políticas y los desarrollos en la investigación del TEA podrían ser particularmente esclarecedores. Capturar los cambios y las tendencias a lo largo del tiempo proporcionará una instantánea dinámica del campo educativo. Además, si bien la dinámica maestro-estudiante sigue siendo central, la colaboración y la dinámica entre maestros y padres de estudiantes autistas está lista para ser explorada. Ahondar en sus patrones de comunicación, percepciones mutuas y desafíos podría enriquecer significativamente el debate en torno a la educación inclusiva.

En conclusión, la cuestión de las actitudes de los docentes hacia la educación inclusiva, si bien se explora significativamente en este estudio, presenta muchas áreas que aún no se han estudiado. Sin embargo, las investigaciones futuras basadas en los hallazgos de este estudio

prometen conocimientos más ricos, estrategias sofisticadas y una mejor comprensión de las prácticas inclusivas en una variedad de contextos.

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### Introduction

The modern educational landscape has undergone remarkable developments, especially in addressing the unique needs of different students, including those diagnosed with autism and other disabilities. As a result of these advancements, the principles of inclusive education have become more prominent, emphasizing equal and active participation of all students in regular classrooms. This research seeks to explore the multifaceted aspects of inclusive education, examining the theoretical foundations, policy frameworks, sociological perspectives, and practical assessments required for the successful inclusion of students with disabilities.

Chapter 1 addresses special education in the Greek educational system, its goals, and the structures of special education in Greece. Additionally, it provides an introduction to the concept of autism, Autism Spectrum Disorder (ASD), a neurodevelopmental disorder characterized by challenges in social interaction, communication, and behavior.

In Chapter 2, the research focuses on inclusive education, a progressive approach aimed at eliminating barriers to participation and promoting a culture of inclusion for all students, regardless of their abilities or disabilities. This chapter explores the broader concept of an inclusive culture and the educational policies that either support or hinder inclusive practices. A key objective of this chapter is to explore Universal Design for Learning (UDL), an educational framework that supports diverse, accessible, and equitable learning environments. Discussing UDL, the research investigates how the principles of multiple representations, engagement, and expression can enhance the learning experiences of students with autism and other disabilities. The central role of educators in shaping inclusive classrooms is discussed, along with the

advantages and challenges associated with inclusive education. Analyzing barriers to inclusive policies, the research emphasizes the importance of promoting inclusive education practices that address the diverse learning needs of all students.

Chapter 3 adopts a sociological perspective to analyze theories of social exclusion, symbolic interaction, and cultural deprivation. Through this examination, the research seeks to understand how social interactions, cultural beliefs, and social structures influence the opportunities and obstacles faced by students with disabilities in their educational journey.

Chapter 4 focuses on the utilization of New Technologies in special education and enhancing the learning experiences for students with Autism Spectrum Disorder (ASD). It explores the support provided to these students through technological interventions, as well as the use and role of mobile and assistive technologies in their education. Additionally, it references innovative smart technologies in classroom settings, making the learning process more effective and inclusive for students with ASD. It also references the integration of Artificial Intelligence (AI), the Internet of Things (IoT), and robotics in special education, ensuring more effective inclusion of students with ASD in both classrooms and society.

Chapter 5 focuses on the education of students with Autism Spectrum Disorder (ASD), emphasizing the importance of identifying and addressing obstacles in learning and adapting pedagogical approaches to meet their specific needs. The chapter delves into the unique challenges and opportunities associated with the inclusion of students with autism in mainstream classrooms, exploring the attitudes and readiness of educators for their inclusion. The research highlights the need to provide educators with necessary resources, training, and support, as well as promoting collaboration with specialists. Additionally, the chapter examines the role of the cultural context in shaping

the experiences of students with autism, exploring the impact of cultural beliefs and social attitudes on their inclusion.

Chapter 6 outlines the purpose of the research and the research questions to be explored. To achieve the research's purpose, the attitudes of 280 general and special education teachers working in general and special primary schools or educational structures in Greece were examined. The research employed a selective sampling method to ensure the reliability of the study. The instrument used was a structured questionnaire consisting of two sections. The first section included demographic and general information about the educators, while the second section comprised the 14 statements of the 7-point Likert scale questionnaire "The Teacher Attitudes Toward Inclusion Scale (TATIS)", created by Cullen et al. (2010).

Chapter 7 focuses on the descriptive analysis of the results conducted using the statistical package SPSS 23.0 (Statistical Package for Social Sciences). Initially, the outcomes from the analysis of demographic characteristics are recorded, followed by the findings from the analysis of educators' attitudes towards inclusion using the TATIS measurement scale. The results are presented using charts and tables of frequencies and percentages, where t-tests, ANOVA, and Pearson correlation tests were performed at a significance level of 5% (Bryman, 2016).

In Chapter 8, there is a discussion of the perceptions and attitudes of educators towards students with ASD as revealed by the results of the current research. Additionally, this chapter focuses on educators' beliefs regarding the effectiveness of inclusion, along with the professional roles and functions of educators that significantly impact inclusive education and understanding of its practices.

Finally, Chapter 9 documents the research conclusions and discussions, providing a summary of the findings and analyzing the correlations of the results. Moreover, limitations of the research are outlined, and recommendations for future studies are proposed, aiming to contribute significantly to the field of inclusive practices by offering deeper insights, more specialized strategies, and an extensive understanding in various environments.

By synthesizing ideas from theory, policy, practice, and sociology, this research aims to contribute to the ongoing discourse on creating inclusive and just educational environments. A central element of this goal is the belief that all students, including those with autism and other disabilities, deserve the right to learn, thrive, and fully utilize their potential in inclusive educational environments.

# Chapter 1: Autism Spectrum Disorder (ASD) and Special

#### **Education**

#### 1.1 Special Education in the Greek educational system

The definition of special education is complicated as it involves a myriad of disabilities and the various theoretical approaches that inform educational programs. Sociologically, it has been understood that special education has beneficial impacts for developing countries positioned with a broader competitive educational framework (Tomlinson, 1986). However, contemporary discourse highlights that special education is characterized by focusing on the unique needs of its students without obsessing over the context in which it is instituted (Ainscow et al., 2006).

Special education has a specific focus on the uniquely focused development of pedagogical programs tailored to the distinctive characteristics and challenges related to individuals seeking to learn. It encompasses all educational programs and services designed for students who have a set of specific educational and social needs aimed at solving their challenges or maximizing their abilities (Artiles, 2011). However, precise definition regarding special needs is difficult, resulting in diversified educational approaches guided by diverse beliefs, but without a universally accepted definition (Florian, 2014).

Modern special education is based on interdisciplinary approaches, focused on understanding the learner, their abilities, and the barriers they face. The goal is to empower them as self-sufficient members of society through educational, support, and diagnostic services (McLeskey et al., 2017). Special education targets students whose physical and mental development is affected by social and individual factors. Therefore,

systematically evaluating services within special education is vital to mitigate discrimination and exclusion (Slee, 2018).

Of course, special education is an integral part of the Greek education system. Key milestones in this context include the investment of the Lighthouse for the Blind in 1906, the creation of the Foundation for the Deaf and Hard of Hearing in 1923, as well as the first special school in Athens opened in 1937. Special education has also been further developed with laws such as Law 1143 in 1980 that enshrined a principle of equal opportunities (Τζουριάδου, 2011) that defended equal social participation and access to education and vocational rehabilitation by the state.

Special education is based on the provision of knowledge and support necessary to meet peculiar educational needs. Knowing the specific characteristics of students has been essential in designing supportive interventions and other forms of educational interventions in this field. Special education, as part of public care, ensures equal opportunities for these students (Norwich, 2014).

Special education structures in Greece are related to the provision of supportive teaching for students with special educational needs and the organization of special classes within regular schools, independent special education schools, and special education schools or departments attached to medical and therapeutic facilities for minors (Πολυχρονοπούλου, 2012). In some cases, educational programmes are provided through family support provided under the supervision of specialized officers.

It should be recognized that students with special pedagogical needs experience emotional, mental, social, and intellectual problems to avoid stigmatization. Careful categorization of educational needs is the vital tool for solving the secondary problems that so strongly affect the development of these students (Μπεζεβέγκης, 1987; Pijl, 2010).

#### 1.2 The concept of Autism Spectrum Disorder (ASD)

Autism, commonly known as autism spectrum disorder (ASD), is a complex and multifaceted neurodevelopmental condition that manifests itself in social interaction, communication, along with repetitive behaviors, as its name means from the Greek word "autos," meaning self. Its name is further derived from the observation of individuals who are autistic who often show self-centeredness or distance towards other people during early observations. The term has had highly negative connotations initially, but research has shown beyond doubt that autism does not only mean introversion disorder, but encompasses a heterogeneous symptomatic picture as well as degrees of severity (American Psychiatric Association, 2013).

Since the description of ASD by Leo Kanner and Hans Asperger in the 1940s, there has been a dramatic evolution of this concept. In those days, autism was described as a form of childhood psychosis. For decades after that period, many syndromes were referred to as "autism," including various forms of schizophrenia. This was until the 1980s, when autism began to be recognized as a separate and pervasive developmental disorder with impact on multiple areas of functioning, including emotional, social, cognitive, and biological processes (Volkmar & McPartland, 2014).

In the modern contemporary setting, autism would be a lifelong neurodevelopmental disorder that encompasses manifestations and abilities. This view draws attention to the fact that while in some cases individuals with ASD show problems in communication or social interactions, others continue to function at very high levels and also have advanced cognitive abilities (Baron-Cohen et al., 2009). There

is wide variation that underscores why individual approaches are required to help and intervene.

Recent advances in neuroimaging, genetics, etc., have recently elucidated the biological underpinnings of autism. Evidence points to its development, as both genetic and environmental factors combine to develop it. However, while there have been advances in all of these areas, the exact etiology of autism remains a hot topic for study, and it is important for one to appreciate the heterogeneity as well as diversity within the autism spectrum (Geschwind, 2011).

Therefore, early identification of autism is critical to understanding what could perhaps be considered timely and effective interventions that support development. While some early signs of ASD are evident in childhood, the most reliable diagnosis usually occurs around the age of three through behavioral assessments (Baio et al., 2018).

As society becomes increasingly aware of ASD, there is a growing demand for comprehensive support and accommodations for people on the autism spectrum. This goes beyond immediate family to educators, health professionals, and community members at large, emphasizing their collective role in creating inclusive and accessible environments.

# **Chapter 2: Inclusive Education**

## 2.1 The concept of inclusive culture

Globalization, rapid technological and scientific development, as well as the increasing heterogeneity of society as a whole, cannot leave the educational community

indifferent. Therefore, a key feature of modern school units can be considered as the diversity of the student population, which puts at the center the fundamental right to equal access to the educational process. However, diversity, exclusion and marginalization, due to cultural, ethnic or religious differences, as well as characteristics such as physical fitness or sexual orientation, reflect a society based on the binary "self and others".

In this sense, inclusive culture is a system of common principles and perceptions, which determine the attitudes and actions of the members of an organization. In this context, inclusive culture focuses on building a community based on safety, acceptance, and collaboration (Ainscow & Miles, 2008). In these circumstances, all members are welcome and cooperate within the norms of democratic structures, with respect, appreciation and solidarity. An inclusive culture therefore presupposes respect for human rights, the fair resolution of disputes, but also the fight against all forms of discrimination.

In the case of schools, the role of teachers in establishing an inclusive culture is crucial, as they are at the heart of the learning process (Todd, 2007). For this reason, systematic training and continuing education of teachers is imperative, to address fear, ignorance, and prejudice toward anything new and different (Carrington, 1999). At the same time, the development of teachers contributes to the formation of a modern and integrated professional identity, based on ethos, cooperation and respect for diversity (Παπαπέτρου et al., 2013).

In addition, the leadership of educational units is the main vector for promoting inclusive culture, as it is called upon to instill in the members of the educational community a sense of equality, respect and justice (Παπαβασιλείου-Πυργιωτάκη &

Πυργιωτάκης, 2015). At the same time, it is called to actively involve all participants and, through the development of collaborative strategies, form communication networks, seeking and applying good practices (Αγγελίδης, 2011). In addition, if the leadership of the school unit does not accept the importance of inclusion and does not have a strong vision, it is impossible to transmit it to the other members, but also to coordinate innovative integration strategies and practices (Αγγελίδης et al., 2009).

In a school unit, therefore, inclusion is associated with a variety of concepts, including the integration of pupils with special educational needs, the management of marginalisation, the integration of pupils at risk of exclusion and the creation of schools for all (Ainscow, 1997). In other words, it is a holistic approach, which is based on the principle of equality and requires responding to the specific needs of students, considering their diversity and maintaining respect for their culture, principles and values (Hick & Thomas, 2008).

Inclusive education goes beyond simply putting students with special needs into those core classes. It's where one creates a learning environment where all students, regardless of background, abilities, or any differences, can flourish and succeed. Inclusive education values that adapt teaching methods along with curricula, among other forms of learning resources, allow teachers to accommodate the diverse needs of students are important (Florian & Rouse, 2019). Doing so helps not only students with special needs, but also builds an environment within our society that fosters understanding and respect for diversity through empathy and respect among all students as well.

In any case, of course, it is a particularly difficult task to define precisely the concept of school culture, since it consists of a series of beliefs, which are shared by

those involved in the educational process and affect their actions and the external environment (Stoll, 1999). In addition, these beliefs are assimilated and transmitted, through teaching practices, to young people who are integrated into the communities, unconsciously influencing their reactions (Schein & Schein, 2017).

In the context of inclusive education, teachers play a more prominent role than knowledge sharing and learning facilitation. Teachers also have an essential role in shaping students' attitudes and behaviors toward diversity and inclusion. Educators can model inclusive behavior, challenge stereotypes, promote understanding among students based on background, abilities, or culture. In addition to this, teachers can incorporate activities and discussions that foster empathy for understanding those who look different from each other due to differences such as race or ethnicity.

School culture, therefore, is a complex system of principles, perceptions, and traditions, which has been formed over time, shaping the way those involved in the school environment think and act, shaping the fabric of values that connects community members (Sergiovanni & Starratt, 1988).

School culture, therefore, is influenced by several components, such as the perceptions of those involved, the social background of students, but also modern challenges that affect the functioning of the school unit (Peterson & Deal, 1998). In fact, the fact that the school is a miniature of society makes it necessary to change the existing culture to meet modern needs and expectations (Fullan, 2007). Therefore, the adoption of the principles of inclusive education requires the formation of an inclusive culture, which will give a modern orientation to the strategies and practices followed by schools (Γεροσίμου, 2013). More generally, however, a collective shift from the

existing mindset is needed, so that diversity is not a disadvantage, but an integral part of modern pluralistic society ( $M\acute{\alpha}\mu\alpha\varsigma$ , 2014).

Continuous professional development of educators remains important in inclusive education. With the increasing diversity of classrooms, teachers need skills and knowledge on how to properly support all students. Professional development can provide teachers with strategies on differentiation in instruction, among other things, that take into account the diverse needs of students. In addition, professional development can help teachers recognize any unspoken biases they may have. This can pave the way for the development of a more inclusive mindset (Inwood & Kennedy, 2020).

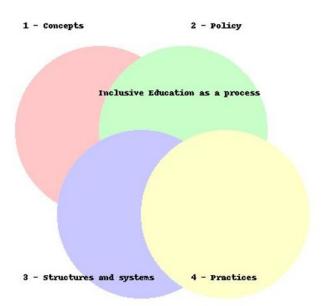
It is essential to involve and involve parents and the wider community when seeking to establish an inclusive culture in schools. Parents reinforce the values of inclusion and acceptance at home. Schools can create a positive relationship with parents by regularly communicating with them, participating in decision-making, and hosting events to celebrate diversity. Additionally, schools can work together with local organizations, businesses, and community leaders to promote inclusion beyond the classroom through partnerships that provide resources, support, and opportunities for students to engage with diverse communities and learn about different cultures and perspectives (Landorf et al., 2023).

#### 2.2 Education policies and inclusive education

Inclusive education refers to a broader alternative and reform plan, which touches on all educational methodologies, but also those involved and is related to overcoming the obstacles that prevent egalitarian education and the rejection of any form of violence, exclusion or marginalization due to personal, social, racial, economic or cultural characteristics (Αγγελίδης & Αβρααμίδου, 2011). Furthermore, "there are no others and us, but only us, there is no typical child, no disabled child, no migrant child, only the child" (Κασίδης et al., 2015, p. 601). For this reason, inclusion is not just a critique of entrenched perceptions or practices, but aims to act and design strategies that focus on human relationships and interaction, which should be cultivated within the school community (Carrington & Elkins, 2002). **Image** shows the process of inclusive education schematically.

Image 1

The Inclusive Education Process



In this sense, the inclusive philosophy of education is based on a contemporary perspective of pedagogical work, according to the first article of the Universal Declaration of Human Rights of 1948, which states that all human beings are born free and equal ( $\Sigma \tau \alpha \sigma i \nu \delta \zeta$ , 2013). Therefore, this philosophy is not limited to the educational well-being of all students, regardless of any form of diversity, but seeks general change

at the social and cultural level, through the elimination of prejudices (Ζώνιου-Σιδέρη, 2008).

More broadly, rapid changes in modern society shape a pluralistic landscape, which poses risks of marginalization and cultural fragmentation. After all, each person is different, due to the particular family, social, linguistic, or educational parameters that characterize them and has specialized learning needs (Σπαντιδάκης & Βασαρμίδου, 2014). This diversity extends to a variety of areas, such as disability, language, and racial differences, but also to the social environment and, under the right conditions, can act as a source of learning for all involved (Σούλης, 2008).

In this way, inclusive education has been studied by many academics, with the aim of promoting students and their perfect integration into the learning process, in the context of a supportive and egalitarian society (Χαριτάκη, 2015). Therefore, multilevel heterogeneity in the school environment is manifested through the different learning rhythms, but also through the possibility of integration into school processes (Καραμητόπουλος, 2015). Scholarly investigations reveal that, despite educators' endorsement of the principles underlying inclusive education, they express reservations concerning its pragmatic implementation (Πατσίδου-Ηλιάδου, 2011).

In these circumstances, honest dialogue between parents, students, and teachers can work effectively in the effort to adopt an inclusive culture. Teacher training in this subject is also an important element for the interconnection of theory with practice (Winter & O' Raw, 2010). At the same time, significant changes must be made to the curricula, which are inflexible in nature and prevent students who show any deviation from following the pace of learning they propose.

In addition, it is important to know that inclusive education goes beyond the integration of learners with diversified needs. It encompasses a change in the entire education system that encompasses educational policies, curricular assessment practices, and teaching methodologies. Therefore, inclusive education requires a systemic perspective that recognises broader socio-economic contexts that shape educational practices and policies Research reveals that the success of inclusive education involves having an informed understanding of how there are intersections between individual institutional and social factors (Florian & Black- Hawkins, 2011).

Equally important, of course, is the redesign of the theme, to avoid problems that encourage discrimination, but also the redefinition of educational objectives to keep pace with modern reality (Θεοφιλίδης, 2009). In addition, the adoption of alternative teaching methods, according to the needs of each student, is an important component of the modern inclusive school (Καραγιάννη, 2012).

More importantly, the involvement of families in the inclusion of education must be taken into account. Therefore, parents and guardians are supposed to be involved in the development of an inclusive culture in schools, as they are responsible at home for reinforcing the values and principles of inclusion. Family engagement through educational initiatives, school events, and decision-making processes can make inclusive efforts more impactful overall. In fact, research findings reveal that parental engagement positively affects students' academic performance, self-esteem, and social skills (Epstein, 2018).

Inclusion, therefore, refers to an uninterrupted process, extending to a generalized range of issues related to society, law, democracy, and pedagogical approach (Sebba & Ainscow, 1996). According to the Salamanca Declaration, it is

necessary for pedagogical systems to be able to include all students, regardless of their individual differences, allowing their equal participation in the educational and social activities that take place within the school (Kumar, 2013). This presupposes the investigation of the components that act as inhibitors, hindering the integration of these students and the parallel formulation of educational programs that meet their needs (Angelides et al., 2009).

Inclusive education should not only address the academic needs of students, but also encompass their social, emotional and cognitive development. This involves developing a nurturing supportive atmosphere in which students can form meaningful relationships to build self-confidence and become active participants in the learning process. Studies find an overall improvement with a holistic approach to inclusive education and higher levels of student participation, resilience, and well-being (Zins et al., 2007).

A basic principle of inclusive education, therefore, is the commitment that all students will go to the same school, have the same teachers and professors, and apply the same curriculum, which, however, will change, according to their abilities (Gupta & Rous, 2016). Therefore, inclusion aims to manage the diverse needs of students, in order to increase their participation in learning processes and reduce exclusion from them (Angelides et al., 2006).

**Image** shows the main elements of inclusive education.

Image 2

Parameters of Inclusive Education

#### **Parameters of Inclusive Education**

1. Provision of Information 6. Qualified Staffing

2. Physical Accessibility 7. Community & External Partnerships

3. Inclusive Policy Framework 8. Regular Assessment Cycles

4. Individual Education Plans 9. Adaptive Curriculum

5. Fostering Student Interactions 10. Innovative Teaching Strategies

The potential difficulties faced by students are, therefore, a consequence of obstacles and barriers rather than their specific educational needs (Winter & O' Raw, 2010). These barriers are related to the culture, policies, and administrative practices of the school unit, as well as to teaching methodology and interaction among students. In line with this fact, inclusive education focuses on identifying and reducing these obstacles, offering the necessary support and using the necessary resources, in order to provide the necessary attention to vulnerable groups. In other words, inclusion emphasizes the moral responsibility to integrate students into school processes and remove barriers arising from the school and social environment (Ryan, 2006).

It is also important to consider that inclusive education occurs at a dynamic and evolving pace and constantly needs to be monitored, evaluated and adapted. Schools need the ability to have an effective feedback loop by which they can assess the impact of their inclusion practices to adjust where appropriate. Teachers, students, and parents can help identify areas for improvement by which the school environment remains inclusive and responsive to the needs of the learner. Research indicates that there is value in systematic approaches to assessing and improving what can be termed "inclusive practice" as it provides superior outcomes for students as well as teachers (Forlin & Chambers, 2011).

Therefore, inclusive education contributes to the improvement of schools to offer all students the possibility of personal development. Thus, while inclusive education began in the field of special education, seeking to separate the universal participation of learners in pedagogical processes from the concepts of inclusion and co-education, it evolved into a concept that treats the school as a whole and underlines the importance of the participation of all students. regardless of your skills and needs. Inclusion is therefore inextricably linked to each school unit's culture, its strategy, but also the broader concept of social justice (Allan, 2003).

#### 2.3 The Role of Teachers in Inclusive Education

Teachers are considered the most qualitative factor in inclusive education, as they will have to face an expanded role, meeting the needs of a diverse set of students. A key priority is to manage educational work in such a way as to avoid stigmatising students with special needs or those from a variety of cultural backgrounds (Δόικου, 2000). To do this, it is necessary to train them to acquire the necessary knowledge, but also to cultivate a culture that promotes respect for diversity (Hammond & Ingalls,

2003). After all, it is the teacher's responsibility to ensure that students with special educational needs are accepted by the entire educational community in order to make them feel that they belong to a group (Jakupcak, 1998).

At the same time, the teacher is committed to creating constructive relationships among students, while he himself must take care to create a climate of trust, providing the necessary support to students in need (Stainback & Stainback, 1996).

In addition, teachers are the key players in designing a differentiated learning environment that addresses the diverse needs of students. With the effective deployment of teaching strategies, assessment methods, and learning resources, among other measures, a teacher can respond well to the different needs of various students who have different abilities, interests in learning, and different learning styles. Teachers through Universal Design for Learning (UDL) principles have access to the flexibility to curate a curriculum that all students, regardless of individual strengths or weaknesses, can participate in (Armstrong et al., 2011; Armstrong, 2010). UDL (Universal Design for Learning) is an educational framework that supports flexible learning environments accommodating individual learning differences by providing multiple means of representation, engagement, and expression (CAST, 2018). Adaptive learning technologies utilize data analysis and artificial intelligence to personalize learning experiences based on the needs, abilities, and learning preferences of individual students. They adapt content, pace, and learning pathways to the learner's current knowledge and performance. By offering personalized learning experiences, adaptive learning technologies support diverse students, including those with special educational needs, in accessing the general curriculum and achieving learning outcomes (U.S. Department of Education, 2020). Research has established that UDL-

based pedagogy helps promote student engagement and improve academic performance while developing an inclusive learning environment (Al-Azawei et al., 2016).

In addition, it is important to help improve students' self-esteem, creating a sense of security (Branden, 2021). Teachers also play a central role in creating a positive and respectful classroom climate where all students are valued and treated equally. This involves encouraging students to adopt a culture of empathy, respect, and mutual understanding for each other. Teachers must also address issues related to bias, discrimination/prejudice in the classroom that help students develop critical thinking skills geared towards challenging stereotypes and fostering a sense of social justice. In fact, research shows that social justice-related issues imbued in the classroom can increase students' awareness of diversity and belonging; they encourage dispositions to take rights for themselves and others (Gay, 2018).

In any case, the modern school presents a series of important challenges, which the teacher is called upon to manage, choosing innovative teaching methods that promote cooperation and self-regulation (Patrick et al., 2007). Often, in fact, the teacher is called upon to collaborate with other specialties of scientists involved in the learning process, such as school psychologists, special education teachers, or social workers (Evans, 2000).

In addition, it is of particular importance to develop cooperative relationships with parents, in order to systematically inform them about the particularities and difficulties faced by their children, with the aim of timely and effective management of problems, both cognitively and socially. To this end, a climate of mutual trust between parents and teachers should be developed to ensure effective cooperation.

In this context, technology serves as a crucial adjunct for educators, enhancing the adaptability and reach of educational practices within a contemporary milieu (Σπυρόπουλος, 2016).

In addition, it is necessary to adapt the curriculum to promote students' competencies, as well as to evaluate the effectiveness of education, seeking to redefine objectives and improve effectiveness. But, above all, it requires commitment and a positive attitude on the part of teachers, combined with the adoption of an attitude free of stereotyped beliefs and prejudices (Murray, 2001).

However, apart from the role of teachers, the attitude of the school principal is also of particular importance, as he or she must convey to the educational community the vision, principles and values, but also provide guidance for the implementation of the objectives (Gunter & Rayner, 2007). In other words, a school principal must act as a leader, creating a culture of inclusion, encouraging and rewarding good practices (Mitchell & Sutherland, 2020). At the same time, it must improve initiative and dialogue, involving the entire school community, aiming at a collective vision of inclusion (Black & Simon, 2014).

#### 2.4 Advantages of inclusive education

Inclusive education has been the subject of a number of studies, which have shown that it provides significant advantages for all students in general, regardless of whether or not they have special educational needs, but also for teachers and society at large (Buysse and Bailey, 1993). The main benefit of inclusive education is the interaction of students with special educational needs with the entire student community, in order to avoid isolation and exclusion from the learning process (Smith

et al., 2014). In addition, positive attitudes are developed, as students understand, accept and treat others with respect (Scruggs & Mastropieri, 2021). Thus, students develop social skills and create opportunities to promote socialization among people of the same age (Slee & Allan, 2001).

Inclusive education not only accepts and understands students, but also makes them feel part of the community and belong. Students with disabilities integrated into the regular classroom are required to form friendships and connect more with their peers than those who remain segregated. In fact, research studies revealed that, compared to those trained in segregated environments, students who have inclusive education report higher levels of social support along with greater satisfaction regarding their social relationships (Ruijs & Peetsma, 2009).

At the same time, inclusion contributes to reducing social stigma by providing equal opportunities for all (Karagiannis et al., 1996). In this sense, people with special educational needs become more confident and develop a positive self-image, while cooperation with the rest of the educational community is particularly beneficial (Ainscow & Sandill, 2010). In fact, it has been shown that students with special educational needs, who attend formal schools, show higher educational performance, compared to students who are integrated into special educational structures (Waldron & McLeskey, 1998). More specifically, support through personalized teaching and curricular adaptation, combined with the application of innovative educational methods, contribute to the improvement of the cognitive level of students with special educational needs and their overall progress (Downing et al., 2004).

More specifically, students with ASD (Autism Spectrum Disorder) in inclusive classrooms show improved cognitive and adaptive skills. This positive development is

attributed to their ability to observe and engage in interactions with their peers (Vivanti et al., 2019). Their peers tend to respond in socially appropriate ways, contributing to the overall positive outcomes for students with ASD in inclusive settings (Rattaz et al., 2020). Research by Rattaz et al. (2020) discovered that students with ASD in regular classrooms exhibited fewer stereotypies compared to those in special classes. Inclusive environments foster respect and positivity, allowing all students to learn and collaborate. This inclusive approach, as highlighted by Meindl et al. (2020), benefits all children, promotes positive attitudes towards ASD, and reduces stigma. When students with ASD engage positively in inclusive classrooms, their peers learn about ASD through positive interactions, contributing to a reduction in associated stigma.

Additionally, In the realm of students with disabilities, there have been significant positive outcomes noted in both academic and social spheres (Oh-Young & Filler, 2015). Inclusive education emerges as a source of various advantages for these students, encompassing higher achievement in language and mathematics, increased rates of high school graduation, and the cultivation of more positive connections with peers without disabilities (Hehir et al., 2016). Additionally, inclusion offers extra benefits, particularly when compared to those enrolled in special education schools, enhancing their learning experiences and facilitating the application and transfer of knowledge across different environments (Causton-Theoharis et al., 2011).

Moreover, substantial advantages accrue to educators as well, as ongoing professional development fosters both their personal and vocational growth, culminating in the proficient handling of the heterogeneous composition of the classroom environment (Κυπριωτάκης, 2001).

For teachers, inclusive education offers the opportunity to learn and develop in their practice by working with many students. It makes teachers creative, resourceful, and flexible in their ways of teaching to suit the needs of each student. This diversity also becomes interesting to create a more colorful classroom environment where students learn from each other's point of view and experience. In addition, there are studies that reveal that teachers who work in inclusive classrooms are less likely to report low job satisfaction and career fulfillment, as they can directly see how their efforts are helping students grow and develop (McCray & McHatton, 2011).

In any case, inclusive education not only benefits students with special educational needs, but also the rest of the students in the school class, as it promotes social sensitivity and the willingness to offer, which are important principles and values (Αγαλιώτης, 2009). Through inclusive education, therefore, the school provides all students without exception with the right tools for their maximum personal development (Vislie, 2003). In this context, students of all categories adopt positive role models and develop social skills, as a result of the recognition of diversity (McMillan, 2008). In other words, students understand diversity in an experiential way and, as future adults, contribute to maintaining social cohesion ( $\Sigma$ ούλης, 2008). In addition, the promotion of cooperation contributes to the reduction of discrimination and social racism, allowing the deconstruction of stereotypes and the formation of a democratic society (Sapon-Shevin, 2003).

Not only in the immediate school setting, but inclusive education also has other widespread social benefits. Educating students with and without disabilities together is creating a new generation of citizens who better accept and understand differences. This attitudinal transformation has far-reaching results, as it helps create more inclusive

communities and workplaces. It is also notable that inclusive education is also seen as an important step towards achieving social justice because it demands equal opportunities for all students despite these characteristics or backgrounds. In fact, research has shown that societies where inclusive education has a higher social priority tend to demonstrate low levels of social inequality and a much greater sense of social cohesion (Armstrong et al., 2011).

#### 2.5 Inclusive Education Practices

According to the principle of inclusive culture, everyone is equal and welcome to participate in society and work for the common good. In this context, the school is considered a key pillar of connection with the external environment, promoting diversity as a positive element for a society (Nind, 2014). Cooperation among members of the educational community is also a key component, with the aim of implementing innovations and formulating modern pedagogical strategies, while contributing to the management of factors that hinder the pedagogical process (Kalbfleisch & Tomlinson, 1998).

At the same time, the existence of clearly defined and achievable objectives allows the early identification of weaknesses and the promotion of improvement actions, through continuous reflection (Forlin, 1997). In addition, differentiated teaching is of decisive importance, which is based on the specific needs of each learner and can be achieved through methodologies such as collaborative learning, teaching in informal settings, but also the application of the principles of total quality in education. In particular, teaching in informal settings contributes to the management of students' existing knowledge and, complementing formal learning, contributes to the development of interpersonal relationships, but also to the emergence of students' skills,

including leadership, critical thinking, flexibility, maturity and responsibility (Resnick, 1987).

In this context, universal design for learning aims to meet the needs of all learners in a classroom and facilitates equal access to knowledge. Another important strategy to apply in an inclusive classroom is differentiated instruction, which involves tailoring instruction accordingly so that it meets a need of individual students. This can be done by altering the learning content, process, product, or environment in such a way that it matches students' readiness levels, interests, and learning profiles. Differentiated instruction requires teachers to penetrate very deeply into understanding all of each student's abilities and needs, as well as employing flexible grouping strategies and assessment strategies. Implementing this approach in an inclusive classroom ensures that all students, regardless of their abilities or learning styles, have access to meaningful learning opportunities that challenge and engage them (Tomlinson, 2013).

In any case, flexibility, tolerance and adaptability are key elements in an everchanging learning environment (Villa et al., 2005). At the same time, it is advisable to tailor topics to students' interests in order to increase their degree of engagement, commitment, and research learning (Hick & Thomas, 2008). According to this assumption, teaching planning should be organized in such a way that all students can respond, starting with the simplest activities.

More generally, it is important for the teacher to be able to recognize a student's diversity and risk of marginalization, in order to avoid their exclusion from the learning process (Χατζηχρήστου, 2011). For this reason, it is important to ensure that there is a positive climate, which allows students to participate and express their opinions,

without fear of being commented on negatively (Messiou, 2006). Reward and encouragement can also motivate students to participate in the learning process (Soriano & Staff, 2014).

At the same time, the use of technological applications, such as interactive narratives, digital games, virtual tours, the integration of audiovisual material and interactive maps, increases the interest of students, encouraging their equal participation. In addition, co-teaching, in the context of the collaboration of more teachers for the holistic approach to each student's education, leads to increased effectiveness of the learning process (Bauwens & Hourcade, 1995). Therefore, inclusion is related not only to the learning environment, but also to the relationships and interactions between students, the learning methodology, and teachers' attitudes towards diversity management (Sandoval & Messiou, 2022).

It is essential to understand that students from diverse social and economic backgrounds bring different cultural and social capitals to the classroom. Recognizing and valuing the cultural capital of all students can contribute to a more inclusive and equitable learning environment (Yosso, 2005). Students from marginalized backgrounds may have valuable skills, knowledge, and experiences that are not usually recognized or valued within mainstream educational discourse. For example, students from low-income families may have developed resilience, resourcefulness, and strong interpersonal skills because of their life experiences. Teachers can leverage these assets to support students' academic and social development (González et al., 2006). In addition, research has shown that incorporating students' culture, language, and lived experiences into the curriculum can improve their engagement, motivation, and achievement (Gay, 2018).

In addition, providing students with the possibility of self-guided learning leads to the democratization of the educational process and provides the ability to adapt learning objects according to the unique characteristics of each learner (Ferguson, 1997). But, above all, it requires teachers' commitment to the principles of inclusion and the adoption of a mindset free of stereotyped perceptions (Συμεωνίδου & Φτιάκα, 2009). Finally, the formation of cooperation networks allows the emergence of good practices and the development of innovations, through the exchange of knowledge and points of view (Jackson & Temperley, 2007).

Inclusive education requires a change in the entire school culture and practices. Therefore, building a positive and inclusive school climate is essential to promote a sense of belonging and acceptance among all students. Research shows that a positive school climate is associated with increased student achievement, motivation, and wellbeing, as well as a reduction in bullying and other forms of discrimination. Creating an inclusive school climate involves promoting respect for diversity, fostering positive relationships between students and teachers, engaging families and the community, and implementing restorative justice practices to address conflict and misbehavior. Schools with an inclusive and positive climate have been found to be more successful in implementing inclusive educational practices and improving outcomes for all students, including those with disabilities (Zynuddin et al., 2023).

#### **Chapter 3: Sociological Approaches to Inclusion**

#### 3.1 Theory of social exclusion

Social exclusion and discrimination against persons with disabilities on the basis of their participation in social activities cannot be seen as a disability issue per se,

but as a matter of social structures. Social exclusion can also take the form of social isolation, access to resources or inequality of opportunity. These forms of exclusion are commonly attributed to systemic causes and prevailing attitudes towards persons with disabilities due to numerous prejudices rooted in cultural, religious and historical practices. For example, it has been established that people who have disabilities experience higher degrees of social isolation than members without disabilities (Hong et al., 2022). This can result in more barriers forming against them where they do not have opportunities for personal development, actively participating in community activities as other members of the community do, or integrating socially into the wider environment. Addressing these issues requires a holistic approach that recognizes structural and attitudinal barriers to inclusion, taking into account the particular needs, circumstances, etc., of people with disabilities.

Thus, people with disabilities are exposed to the risk of social exclusion and a key means of preventing this phenomenon is their integration into educational processes. The exclusion of a student from the school community due to their otherness has significant consequences, as they are responsible for causing negative feelings about themselves ( $T\sigma\iota\rho\acute{\omega}\nu\eta\varsigma$ , 2003).

In any case, social exclusion leads to the desocialization of the individual and contributes to the formation of an image according to which diversity is a negative element. As a result, the individual becomes extremely vulnerable and becomes a victim of this situation, due to the fact that he or she is part of a group with different characteristics (Λασσιθιωτάκη, 2005). In addition, persons with disabilities, and especially with ASD, constitute a category of population, which often faces problems of social stigma and exclusion, as well as phenomena such as unfair treatment and

prejudice. Social exclusion, moreover, is not a single concept, but refers to individual cases of exclusion, which are related to the characteristics of the social environment and the economic and political organization, reproducing these phenomena in specific contexts.

Taking into account the importance of the school environment, the sociology of education has studied in depth the issue of social exclusion, concluding that unequal treatment by society results in the maintenance, reinforcement and perpetuation of these phenomena also at the school level. In this sense, variations in socioeconomic status, racial characteristics, sexual orientation, gender, as well as physical or mental disabilities can cause school and, more generally, social exclusion (Campbell et al., 2001). The exclusion of students from the educational process can manifest itself as follows (Τρέσσου, 1999):

- i. Exclusion of students with special educational needs from the outset and their non-acceptance by the education system
- ii. Marginalization of students within the school environment, resulting in failure or disruption of their studies
- iii. Students who, despite the difficulties, manage to complete public education, although they constitute a low percentage.

In addition, infrastructural deficiencies contribute to the consolidation of inequalities, leading to a form of educational exclusion, which leads to the reproduction of social exclusion phenomena, while the depreciation of people with special educational needs is the beginning of a vicious circle of stereotyped perceptions and prejudices (Tarabini, 2018).

Understanding the intersectionality of the various identity factors that could lead to social exclusion is an essential component of addressing social exclusion. The effects of social exclusion can vary widely depending on the combination of race, gender, socioeconomic status, as well as your disability, among many other key elements. For example, research has established that students with disabilities from ethnic minority backgrounds are often affected by additional complexities in accessing inclusive education due to intersections in their disability and race/ethnicity (Waitoller & King Thorius, 2016). As a result, it is necessary to consider the unique experiences and needs of those who might be marginalized due to multiple overlapping factors and for whom specific interventions must address these specific forms of exclusion.

Under these conditions, social constructs relating to the characteristics of an individual or group act as a deterrent to maintaining their position in social life, causing serious psychosocial consequences. Thus, a variety of negative emotions develop, such as anxiety and fear, which dominate people with disabilities, creating a sense of insecurity and uncertainty, which often acts as a cause of depression or manifests itself in the form of aggressive behaviors, rage and anger.

At the same time, a particularly common phenomenon is the development of a sense of frustration, as students with special educational needs are unable to make sense of their lives, dream or develop expectations, which limits their self-confidence and self-esteem, leading to despair.

Efforts to reduce social exclusion must also involve the development and adoption of inclusive educational environments that put students' voices and experiences at the centre. This involves actively striving to obtain their input, gathering or incorporating their perspectives into the formulation of policies, practices, and

curricula. For example, participatory action research (PAR) has been eminently recommended as a successful avenue to promote the inclusion and empowerment of students with disabilities through raising awareness of inclusive barriers along with suggesting possible solutions (Fleming et al., 2023). This approach can be useful in ameliorating the power imbalances that often contribute to inclusion by providing students with disabilities with a platform from which to advocate for their rights and from which to be very active participants in the decision-making processes that affect their lives.

In this context, people with disabilities may experience feelings of shame and guilt, often stemming from pity shown by members of the student community, resulting in loneliness and alienation. For this reason, in many cases, they opt for self-isolation, in order to cope with the fear of rejection.

#### 3.2 The theory of symbolic interaction

Interaction refers to the development of activity between two or more people, in which each acts according to the expected reaction of the other. Constant interaction, i.e. symbolic interaction, contributes to the creation of multiple meanings, with the aim of a better understanding of the environment. Thus, a positive image of others and the reward of actions causes feelings of pride, while negative image and disapproval reinforce the sense of humiliation. Therefore, self-image is catalytically influenced by the influence of others.

In this context, symbolic interaction is the means by which the individual attempts to perceive the environment and, through categorization, shapes the construction of reality (Blumer, 1969). Under these conditions, special educational

needs are considered a social construct, which is a consequence of the creation of meaning resulting from social interaction (Bogdan, 1986).

According to this symbolic interactionist conception of social interaction, meanings and multiple interpretations of events and situations are continuously coconstructed through social interactions. Several factors such as cultural norms, social values and historical contexts have been identified as determinants of the social construction of special educational needs. In research that examined the results of 11 different studies on perceptions of disability in 5 societies, it was concluded that societal views towards disability could differ widely across cultures, with at least one society seeing it as a punishment imposed by God or a disgrace on individual families (Ingstad, 1999). These cultural beliefs and attitudes can influence whether people with disabilities are treated or valued appropriately within their communities. It is important to recognize and challenge these stereotypes and prejudices that perpetuate the stigmatization and marginalization of people with special educational needs. Thus, the individual, initially, is called to understand himself and then to proceed to the study of the world from the position of the other, acting as an observer.

Therefore, the fact that some pupils are classified as having special educational needs mainly refers to the way in which they are perceived by others. The practice of labeling and classifying students according to special educational needs has mostly positive ramifications and has detrimental consequences. On the one hand, labeling can act as a form of identification tool for educators in identifying and providing supports and accommodations for students with disabilities. On the other hand, labels are also a reinforcement of stereotypes that create more stigma against students with disabilities (Horne & Timmons, 2009). Research provides evidence that teachers' attitudes toward

students with disabilities are affected by the type of labels they are provided (Horne & Timmons, 2009). Lower expectations and negative attitudes have been found to limit opportunities and experiences among students with disabilities, lower academic performance, among others. Therefore, it is important for teachers and educators to acknowledge their own biases and treat all students as individuals who possess unique strength and abilities.

In other words, it is a social construct, arising from the interaction of students and teachers, and the symbolic meaning of disability depends on societal values (Anastasiou & Kauffman, 2017). In any case, the concept of symbolic interaction is at the heart of the vision of social construction, which results from the exchange of perceptions, principles and beliefs, through the social bonds that individuals develop.

As a social construct, therefore, disability is not something necessary or natural, but a product produced by society, based on historical and cultural models. From a symbolic interactionist perspective, meanings and interpretations of disability are also incorporated within interactions with others, as well as the meaning associated with disability in a specific sociocultural context. Such social constructs can generate experiences and self-perceptions of individuals. For example, studies have shown that students are susceptible to internalizing negative stereotypes along with stigmatizing attitudes that consequently affect them morally and emotionally (Arasaratnam-Smith & Deardorff, 2022). At the same time, students encouraged to view their abilities and differences positively tend to have a positive self-concept in addition to pursuing goals or aspirations. Therefore, it is important that inclusive educational environments celebrate diversity, foster positive attitudes towards disability, and support the personal development and self-acceptance of students with disabilities.

The school environment, which is not structured on the principles of inclusion, strengthens the social construction of disability by establishing barriers to equal access to education. In addition, the school's existing curricula are designed in such a way that some of the skills are excluded, while the assessment is carried out without considering the personality elements of the students. An indicative example is school complex construction facilities, which are not suitable for use with students with disabilities, blocking their access. Thus, otherness within the school environment is identified with the concept of incompetence, leading to a self-fulfilling prophecy.

#### 3.3 The theory of cultural deprivation

According to the view of cultural deprivation, school failure is inextricably linked to the student's family. More specifically, high or limited academic achievement is due to parental beliefs, socialization, language use, and principles that a student receives from his or her home environment. In this way, the family is the main component for the development of the learning process.

This theory of cultural deprivation points out how family and social background influence educational performance, but it has been rejected due to its determinism, and is rejected by low-income or marginalized students because of this (Valencia, 2012). The word "deprivation" is used here to indicate that some cultures are innately inferior or deficient, so maintaining stereotypes about it adds another dimension of marginalization. This is also because this theory tends to blame students and their families entirely rather than considering broader structural and systemic factors that lead to educational inequities. Recent research has emphasized the importance of understanding how individual, family, and social variables combine with each other to

shape students' educational experiences and outcomes (Bourdieu & Passeron, 1990; Yosso, 2005).

At the same time, this theory correlates school performance with communication skills. In fact, it attempts to link economic and social factors to students' language performance, concluding that a poor environment predetermines poor academic performance. The school, then, is structured in such a way that it is based on the values of the middle and upper class, devaluing the culture of the students, who belong to the working class, imposing a certain form of culture of this ruling class.

Therefore, middle- and upper-class students have a significant advantage, as their attitudes match teachers' expectations ( $\Theta \acute{\alpha} vo \varsigma$ , 2012). Taking into account the above assumption, the differentiation of academic performance between students from different social classes is the result of cultural backwardness, i.e., the isolation of an individual or a social group from the cultural elements that dominate a society, resulting in social backwardness ( $Kvpi\delta\eta\varsigma$ , 1996). Therefore, students, who live in an intellectually disadvantaged environment, are called upon to assimilate social principles, which are unfamiliar, resulting in greater chances of poor academic performance.

However, recognition of this requires an understanding that addressing cultural deprivation in the education system depends on broader efforts by society to achieve systemic inequalities and make learning environments for all students, including schools and their educators, more inclusive and diverse. Specifically, schools and educators need to adopt strengths-based approaches to recognize and value the highly diversified cultural, social, and linguistic capital that students bring to the classroom (Wakefield, 2020). Furthermore, research has underscored significance of culturally

responsive pedagogy and curricula that reflect the diverse experiences, perspectives, and contributions of all students (Gay, 2018). In addition, there is an additional need for ongoing professional development and training for educators on diversity, equity, and inclusion issues, such as developing cultural competency and understanding how implicit biases can affect their attitudes, expectations, and interactions with students (Banks, 2008).

# Chapter 4: Leveraging New Technologies in Special Education: Enhancing Learning Experiences for Students with ASD

### 4.1 Understanding Autism Spectrum Disorder (ASD) and Technological Interventions

Autism Spectrum Disorder (ASD) encompasses a diverse range of neurodevelopmental traits characterized by enduring difficulties in social communication and interaction, alongside the presence of repetitive behaviors, narrow interests, or restricted activities (American Psychiatric Association, 2013). Intellectual and functional capabilities of the children are highly varied and hence strategies for education have to be tailored for every child with ASD. Use of technology in the educational strategies regarding ASD emerged as significantly relevant in the recent past, providing innovative options for the needs of these learners.

Technological interventions especially assistive and instructional technologies form a great component of the support that is accorded to these students with ASD. These technologies help enhance the functional abilities of persons with disabilities, hence helping them acquire learning with greater effectiveness. In this regard, Caldwell (2019) elucidated an overview of various forms of assistive and instructional

technologies being offered under the framework of Individuals with Disabilities Education Act (IDEA) and the ways through which they are applied in meeting the special needs of children with ASD. This involves tools that assist in verbal and nonverbal communication, social interactions, and adapting to change. Such technologies are important in helping bridge the gap between the abilities of students with ASD and curriculum which they need to cope up (Caldwell, 2019). Among the students diagnosed with ASD, mobile technologies and applications emerged significantly with helpful aids towards improving cognitive and social skills. In such regard, Μαντά et al. (2020) pointed out the following prospect targeting at innovative technological interventions for children diagnosed with Attention Deficit Disorder (ADD) along with High Functioning Autism (HFA). Findings from their research point out how personalized accessibility options provide by these technologies can minimize disadvantages which these students are faced with in comparison to typically developing peers. This personalization is of utmost importance in special education where one size does not fit all. Such targeted interventions based on technology provide specific tailored intervention solutions to the students with ASD attending to their exact need in that particular subject area and as a result giving that student better learning and social inclusion experience through the education system (Μαντά et al., 2020).

The computerized smartglasses-based smart technologies have shown a tremendous scope in enunciating educational interventions through augmented reality under the domains of the social and emotional learning each concerning autism. Keshav et al. (2018) showed the work conducted in this regard, assessing the impact and viability of smartglasses-based intervention for the purpose. The findings from the investigation established that the feasibility of use of the smartglasses intervention was high, and it did not consume any absurd time for learning or for implementation. When

the subject involved the participants admitting that there were improvements in either verbal or non-verbal characteristics by that of the student with ASD, it confirmed the efficacy of such interventions in real classroom settings (Keshav et al., 2018).

Shamir (2019) indicates that new technologies in educational process support diverse academic needs. Additionally, the research further demonstrates that technologies such as iPads, laptops, and smart phones are central in the planning of lessons as this facilitates multisensory learning required for effective teaching and learning processes. For the ASD learners, these technologies present a more interactive platform that appeals to them while serving their learning needs and styles in a more appropriate manner. And one of the best things about these technologies in the special education environment is that they can be adaptable to different learning needs and personalized for individual learner learning demands (Shamir, 2019).

The most striking emerging areas encompass Artificial Intelligence (AI), Internet of Things (IoT), and robotics which are remodeling the face of special education. Fotoglou et al. (2022) examine the use of IoT technologies in special education, especially for students with ASD. Technologies of such nature, through the use of wearables and smart sensors, provide in-the-moment information to educators about physical, cognitive and emotional states of their students, thereby rendering them responsive to the individual challenges confronted by the learners. The IoT devices are capturing data on student performance and pattern of behavior subject to more tailored approaches to education based not on teacher experience but individual possibilities of every student (Fotoglou et al., 2022).

In conclusion, new technologies incorporated in special education hold the promise to improve learning experiences of the student suffering from ASD. Such

technologies offer individualized, interactive, and motivational learning environments befitting the unique needs of each student thus boosting educational outcomes. Technological progress provides the opportunity for the development of a modern dynamic, aiming at the inclusion of all learners. This can be achieved by ensuring access and differentiating educational materials through the creation of an alternative and multiplicative environment. Such an environment contributes to encouraging dialogue and, consequently, the development of communication, networking, collaboration, knowledge promotion, linguistic cultivation, and enhancement of critical thinking skills (Passey, 2013). As technological advancements keep improving, the application of it in special education will no doubt be of significant impact to bring learning into a face for bridging learning gaps and fostering inclusive education for the students with ASD.

#### 4.2 The use of new technologies in special education

The integration of new technologies in special education represents a considerable challenge, offering potential benefits for both educators and students. These technologies can increase students' interest in the learning process, support individualized approaches for people with learning disabilities, and foster engagement and motivation (Μουστάκας et al., 2015). Taking into consideration that in the 1990s, only 8% of the educational system utilized the possibilities offered by e-learning, and a decade later, there was an increase in this percentage to 20%, there is a significant rise in the use of digital means. In the last decade, this increase has been dramatic, as in 2011, the aforementioned percentage reached 35%, and just three years later, in 2014, it approached 80%, making the use of digital means a given in our era concerning the educational process (Μακρή & Βλαχόπουλος, 2017).

Learning disabilities are neurobiological disorders that affect the brain's ability to process information, often requiring a personalized approach to help students cope with educational demands (Vinumol et al., 2013). Such disabilities can range from mild to severe and are associated with cognitive and social challenges (Κωνσταντίνου & Αγγελή, 2006).

Technology apps play a vital role in supporting students with disabilities. They can improve concentration, improve motivation, facilitate interaction with peers, and promote independent learning and self-motivation. By incorporating technology, students with learning disabilities can exert greater control over their educational process, seek knowledge, and reduce barriers to learning through interaction (Lin et al., 2016).

The use of modern technologies in special education provides real-time feedback, improves learner interaction, and expands possibilities for educators (DePriest, 2012). For teachers, technology represents an opportunity to integrate the real and virtual worlds into an interactive pedagogical approach, enabling the creation of multi-level educational activities that are tailored to individual student needs (Hall et al., 2012). However, the effective utilization of new technologies requires the continuous professional development of teachers in the IT fields through specialized training programs.

The potential benefits of technology in special education have been confirmed through research. A study involving learners with mental disabilities who interacted with a tablet app found that they showed significant improvement in their understanding of scientific concepts (McMahon et al., 2015). Another study with preschool students

with severe learning difficulties revealed that a digital app helped build autonomy by enabling decision-making with minimal teacher guidance (Parton & Hancock, 2012).

The term "disability" refers to limitations or inadequacies resulting from harm that hinders a person's ability to perform a desirable activity. Disability is not just an individual problem, but is influenced by interactions with the environment. Assistive technology applications can improve the functionality of people with disabilities by providing access to specialized equipment and services (Cook & Hussey, 1995). Appropriate educational interventions include interactive learning materials and the use of assistive technology devices, ensuring that educational content is accessible and understood by all students. The multisensory approach offered by technology can increase autonomy and ease of access to information, helping to manage physical weaknesses and providing a controlled learning environment for students with ASD (Florian & Hegarty, 2004).

The use of modern technology in education leads to significant changes in teaching methodologies and educational processes, ensuring equal access for all students (Abbott, 2007). The Internet offers unrestricted access to educational services that can be adapted to the needs of both students and teachers (Wilkinson-Tilbrook, 1995). The increasing prevalence of technology in daily life underscores the importance of familiarizing students with its roles.

In Greece, the digital repository "photodentro" provides a range of learning objects related to special education, including educational exercises, activities, and games covering various topics. These resources support the development of relevant life skills and enhance students' engagement with the learning process.

The use of technology in special education has shown positive results, with higher success rates for students with special needs ( $\Delta$ ρακόπουλος & Σιούλας, 2019). For example, virtual reality and avatars have been employed to improve the understanding and emotional development of students with ASD. In conclusion, the integration of new technologies in special education offers valuable opportunities to overcome learning barriers, improve student engagement, and promote control over the educational process.

Technology interventions have recently moved toward artificial intelligence (AI) and machine learning (ML), revolutionizing the way educational support is provided to students with cognitive, physical, and other health disabilities. AI-powered software can provide an individualized learning experience, anticipate a student's performance outcome, and perform repetitive tasks automatically without requiring excessive teacher attention that would otherwise be assigned to personalized instruction (Ghosh et al., 2021). Artificial intelligence has the potential to revolutionize adaptive learning by providing targeted recommendations for content delivery and assessments, enabling students to learn at their own pace (Kurniawati et al., 2014).

In addition, IoT technologies, the Internet of Things (IoT), also offer a variety of applications in special education. These are defined as wearables, smart sensors, and also automated devices that help enhance the learning experience. Such technologies provide educators with the opportunity to monitor students' physical, cognitive, and emotional states while allowing them to adjust their teaching styles accordingly (Yuliawan et al., 2023). The many IoT devices collect pertinent data on student performance and behavior patterns. Gathering such details makes it possible for one to

understand their capabilities. Therefore, it allows teachers to adapt their teaching strategies (Singh, 2021).

And indeed, robotics has also found a place within special education classrooms, another emerging technology. AI-programmed robots could have interactions with students to complement their learning and development processes. A recent study revealed that children diagnosed with ASD reacted positively to humanoid robots during teaching sessions, enhancing their social skills and interaction with their peers (Scarcella et al., 2023). Robotic-assisted instruction can bridge communication gaps for students with ASD in order to embark on a more engaging and personalized learning process (Cabibihan et al., 2013).

Finally, augmented reality (AR) has also been useful in special education. AR makes things feel real where it can be modified to suit the requirements of individual students (Baragash et al., 2020). It makes serious ideas more real for those who find themselves stuck with complex notions and gives them a clearer understanding of them through boring and exciting ideas. Augmented reality (AR) applications are demonstrating effectiveness in enhancing social skills and boosting emotional intelligence in children with ASD (Ramdoss et al., 2021).

### 4.3 The Role of Mobile and Assistive Technologies in Education for Students with ASD

Integration of both mobile and assistive technologies in education has highly transformed the learning experiences of students with Autism Spectrum Disorder (ASD). Both mobile and assistive technologies provide diversified as well as effective and personalized means to address the unique educational needs of the students.

Mobile technology has been a recipient of recognition as one of the best ways of improving learning and communication, especially with students having ASD. Qahmash (2018) probes the different types of mobile technology in various disabilities that users, including those diagnosed with ASD, can use in curricular contexts. Moreover, the kind of flexibility such technologies show has proven to be especially helpful and supportive in aiding their development of communication, social, and vocational skills. That's exactly why the flexibility of devices like tablets and smartphones affords a much more customized and interactive ecological fit to suit the students (Qahmash, 2018).

Consequently, according to Ismaili and Ibrahimi (2017), mobile learning can be experienced as an alternative way to conventional assistive technology devices mainly when they are less available. They show the mobile effectiveness of Smartphones, Tablets in special education proving open-source platforms and applications can ameliorate learning for some or all disabled children suffering from severe disorders like ASD. It promises a cheaper and far more accessible solution that may redefine special education in less-developed areas (Ismaili & Ibrahimi, 2017), using this kind of approach.

Soldatenkova and Blinova (2021) show certain assistive technologies, mobile applications in particular, made for children with ASD. These applications aim to support inclusive education through aiding communication, social interaction, and learning. This use of mobile apps as functional prostheses in the absence of speech, or as tools reorganizing impaired functions, testifies to the adaptability and practicality of mobile technology into the special education for ASD (Soldatenkova & Blinova, 2021).

In another review of existing legislation and professional standards related to education of students with ASD with technology-aided interventions, Pham et al. (2019) also expressed the following. They often highlight many of the technological aids like the use of a speech device, computer-based instruction, and video-based instruction that greatly assist in enhancing social communication skills among people suffering from ASD. The implications and future directions of these technology-aided interventions are critically influential points to the effective educational practice (Pham et al., 2019).

Additionally, Keshav et al. (2018) establish the utilization of the mobile technology, smartglasses in place of socio-emotional learning intervention in autism. In their conclusions, they found that smartglasses could represent a feasible and effective way to enhance social communication skills and brought forth the feasibility of the use of mobile technology in improving specilized educational systems designed for students with ASD (Keshav et al., 2018).

Mobile and assistive technologies seem transformative for students with ASD educational practice. They can not only provide new meanings in the communication and learning process but they cover alternative ways for education in mainstream and personalized education setting. With advancements in the technologies mentioned, their inclusion in educational strategies for ASD holds benefits of learning and general quality of life.

## 4.4 Innovative Smart Technologies in Classroom Settings for Enhancing Learning in Children with ASD

In the recent past, smart technology has been linked and used with greater success in classroom contexts to support the learning of children classified under Autism Spectrum Disorder (ASD) in its own advanced ways. In particular, the technologies have offered a rare chance through which to advance the social enhancement of children with ASD including cognitive processes.

Shamir (2019) has noted that adaptation of new technologies, such as tablets and smartphones, in the teaching process of students with different kinds of academic needs, including ASD, is needed. The study highlights how these devices, created based on diverse input channels, aid multi-sensory learning - necessary to students with ASD. In other words, their use of these technologies in education is almost as essential as traditional tools like textbooks and pencil for the origination of the lesson (Shamir, 2019).

Sharmin et al. (2018) elaborated the potential of smart technologies that include wearables and mobile devices for facilitation of detection, diagnosis, and management of ASD. Their research went on to indicate that effective use of this technology in support for ASD has up not yet been adequately realized but showed immense potential. They describe design implications for ASD-support technology that underscore the importance of technology changing its behavior responsive to the user' affective state on-the-fly (Sharmin et al., 2018).

Zaki et al. (2017) present a learning device for students with ASD. The paper assesses the use of a pressure sensing keypad for interaction among autistic children.

The tool showcases the manner in which smart technologies could be advanced to deliver applicable and user-friendly interactive learning possibilities to children who suffer from ASD (Zaki et al., 2017).

A 2022 study reviews the use of assistive technology (AT) in helping individuals with ASD cope with challenges. It notes that AT, which is part of smart technology, being extensively adopted as a teaching aid tool for ASD persons with a lot of potential at tackling the challenges faced by individuals with ASD. This highlights the role of AT in facilitating communication and social interaction, cognitive abilities, and other areas of development affected by ASD (Edyburn, 2013; McLeod, 2022).

Finally, Collette et al. (2018) examine the impact of using technology, like Proloquo2Go on an iPad, in a classroom with children diagnosed with an ASD. The findings of the study demonstrated that through Proloquo2Go, smart technology raised the level of independent performance and reduced support required to be offered during classroom activities, and has therefore shown effective in enhancing academic occupational performance among children living with ASD (Collette et al., 2018).

In summary, to children with ASD, smart technologies in classroom settings give vast arrays of benefits. The technologies bolster other traditional learning objectives but are especially equipping for the unique ASD challenges. They enhance engagement, interaction and independency hence make the learning process for such students effective and inclusive.

### 4.5 Emerging Trends: Artificial Intelligence (AI), Internet of Things (IoT,) and Robotics in Special Education

The integration process of Artificial Intelligence (AI), the Internet of Things (IoT), and robotics into special education will debut a breakthrough in the teaching and learning processes, especially for cases involving children with Autism Spectrum Disorder (ASD). Technologies used in that area provide tremendous opportunities to enhance quality of educational process as well as to lead increasing individual needs of students and preparing for be a part of technology integrated society.

Educational robotics is getting more popular, as educators have recognized an educational enabler for special education. Oprea and Mocanu (2021) point out further that the introduction of robotics within the broad frames of school curriculum, notably emanating from the STEM (Science, Technology, Engineering, and Mathematics) education, initiates computational thinking, creativity, and innovation among the students. They emphasize that it is crucial the existence, in educational robotics projects, of wireless communication technologies between smart devices, like for example a robot car controlled through a Bluetooth module connected to an Arduino Uno board. This approach makes the students engaged and helps them to get prepared for emerging specialization in the field of automation and informatics, and so on (Oprea & Mocanu, 2021).

As studied by Yu and Ding (2020), in the application of AI in preschool music education, the research proves that an AI teaching robot has the ability to sense children's moods so they play practical music upon their mood indications to express a certain mood and meet certain learning goals. Neural networks of these music robots can comprehend, analyze and create music those which are a new way of the musical perception with a cognitive development. Such applications specially come in hand to special education where developing emotional intelligence and social skills play a critical role (Yu & Ding, 2020).

Han (2018) reveals the innovative progress of AI technology in modern education providing an example of how robots are becoming part of the future educational process. The merging of AI and education means only one thing - rapid advancement of the high-tech educational system. In special education, this AI technology helps in developing personalized learning experience as well as adaptive teaching methods which are significant for the students with different learning demands such as ASD students (Han, 2018).

Significance of IoT applicability in education. Yao (2019) explains how IoT, classically combined with AI and robotics, dispenses convenience in the life and study of the humans. Making a certain reference to education domain, IoT makes the smart learning environment which makes a span of technologies which works collectively towards enhancing the experience of learning. This is particularly applicable to special education since IoT can be utilized in the creation of personalized learning spaces that are designed following the requirements of children suffering from ASD (Yao, 2019).

Samara et al. (2022) discuss the emergence of Internet of Robotic Things (IoRT) in early childhood education creating an eye opener to the technology utilization in education. Robotic emerges useful helping to adapt digital transformation and improve strategies using robotics and IoT. This is particularly relevant in the spheres of managing behaviors and educating children with ASD, where the amount of promise that IoRT holds is immense (Samara et al., 2022).

In summing up, the integration of AI, IoT, and robotics in special education is ensuring innovation as well as development for effective as well as innovative teaching as well as learning methods. These technologies are not only enhancing the educational experience of children who have ASD, but they are also imparting in them a set of skills

that is indispensable to their being successful participants in a technology-driven society. The potential of these technologies in specialized education, that is special education and special training for children with ASD, subsequent to the progress and development of this technology with personalized, interesting, and comprehensive learning experiences could be mammoth.

# **Chapter 5: Education of Students with ASD**

#### **5.1 Barriers to Inclusive Policies**

Inclusive policies and education, externally ordered by the spirit "a school for all" aspire to induce a continuous participatory process amongst all learning actors with an emphasis on the process of cutting student marginalization (Acedo, 2008). However, worldwide implementation of these policies faces many hurdles attributed to the varied population diversity added to the unique political, social, and economic conditions that dominate each local community (Messiou, 2017). These local specificities call for tailor-made interventions challenging the cookie-cutter replication of a universally successful strategy (García-Huidobro & Corvalán, 2009). The approaches adopted, at times, regarding the education of students with disabilities are influenced by disability management models and the social norms of each era, reflecting the beliefs of society (Damianidou & Phtiaka, 2018). Also, when inclusive policies are implemented, these policies often clash with societal stereotypes, prejudices, racist attitudes as well as religious beliefs that are equally prevalent within the school environment (Stylianou, 2017).

In recent years, there has been a shift towards adopting a social model of disability in education, recognizing that obstacles to learning and participation are

created by social attitudes, policies, and practices rather than individual deficits (Shakespeare, 2014). This perspective emphasizes the need to remove physical, social, and behavioral barriers that hinder the full participation and inclusion of students with disabilities in the educational process (Barton, 2009). Schools can embrace a social model of disability by providing accessible facilities, implementing inclusive teaching strategies, promoting positive attitudes towards disability, and involving students with disabilities in decision-making processes (Goodley, 2014). By challenging and dismantling traditional notions of "normal" and "abnormal," schools can create more inclusive and equitable learning environments that value and respect the diversity of all students (Baglieri, 2012).

The attitude and beliefs that the teachers hold towards the children with disabilities greatly influences their commitment to, and capacity in developing diversified instructional practices. Teachers who possess positive attitudes towards the inclusion of the children are more likely to come up with an inclusive classroom. An inclusive classroom sees to it that those with disabilities do not experiences discrimination of any nature and are also valued members of the class. On the contrary, negative attitudes or misconceptions by the teacher may hinder the effective practical implementation of inclusive policies. Thus, the role of well integrated teacher education programmes is essential in preparing future teachers with the appropriate attitude and skills to practice inclusive education (Hsiao, 2022).

The bureaucratic hurdles involving time-consuming procedural requirements, more often, create obstacles to the initiatives taken by the teachers to adopt inclusive practice and leave little place for adopting practice flexibly (Γαβριηλίδου-Τσιελεπή, 2011). Effective collaboration with parents and local community is strongly required in an inclusive education system (DeMatthews et al., 2020). Stakeholders including

teachers, parents, administrators, and support staff have a wide range of views that result in communication barriers that greatly hinder the successful implementation of inclusive policies. Inclusive education should be characterized by a cooperative spirit and massive participation in making decisions that directly address shared goals and common strategies for inclusion (Fodo, 2020).

Parental attitudes also go a long way to contribute to whereby negative perceptions can enhance the discrimination towards the students with special educational needs (Tange, 2016). Moreover, too little adaptation of the curriculum to student heterogeneity and too little adjustment of teaching materials to the most diverse requirements, such as those for non-native speakers or with visual impairment, learning disability, or ASD restrict the offer effective inclusive education (Bhatnagar & Das, 2014; Fuchs et al., 2015). Moreover, the school should ensure that the playgrounds and spaces of interaction among children in school are interactive and inclusive (Rose, 2010).

Training of stakeholders on issues of diversity is necessary as lack of knowledge may hinder the success of the inclusive policies set in place (Jelas & Mohd Ali, 2014). Moreover, a fundamental prerequisite is for educators to acquaint themselves with their students, recognize their talents and areas needing improvement, and function as advisors and supporters to create learning objects that meet their needs (Schwab & Hessels, 2015).

Policies without exclusions can also be hindered by high-stakes testing and standardized assessments. These forms of evaluation often fail to consider the diverse learning needs of students with disabilities, putting them at a disadvantage and perpetuating a cycle of exclusion. Additionally, educators may feel pressured to focus

on exam preparation at the expense of other inclusive educational practices. In this context, it is essential to implement alternative forms of assessment that are sensitive to the varied abilities and needs of students, and to provide educators with the necessary training and support for the effective evaluation of all students (Simón Rueda et al., 2022).

It is, therefore, imperatively necessary to fully remodel the pedagogical framework that is characterized by the appeal on behalf of the state for the redefinition of the educational goals that promote radical reforms concentration, focusing on the modernization of the curriculum and the continuous training of teachers (Καλογήρου, 2014). Organizational barriers maybe overcome through the adoption of harmonized legislative frame work in inclusive education and accessing due funding (Τάφα, 2010). School leadership should be supportive since it will empower teachers to undertake the freedom of implementing a range of alternative strategies in an atmosphere embedded on trust (Glazzard, 2011). Addressing teachers' cognitive deficits will reduce the insecurity of teaching in inclusive classes (Lancaster & Bain, 2007). Moreover, the training of educators "appears to be the best way to create a new generation of educators to ensure the successful implementation of inclusion policies and practices" (Cardona, 2009, p. 35).

School leadership plays a crucial role in facilitating inclusive policies. The attitudes, beliefs, and actions of the school principal can significantly influence the success of inclusive education within a school. Effective leaders prioritize inclusive practices, strategically allocate resources, and create a supportive school culture where inclusion is valued and celebrated. Principals demonstrating a strong commitment to inclusion serve as role models for staff and students, inspiring them to adopt inclusive practices and attitudes. Additionally, supportive leadership can help alleviate the stress

and challenges faced by educators in inclusive environments, promoting collaboration and teamwork (Khaleel et al., 2021). Finally, it also involves developing a broad and tolerant culture with respect to diversity acceptance within the schools (Kochhar-Bryant et al., 2000).

In conclusion, although formulated in an attempt to cater for all students fairly, the inclusive education policies come with many challenges. The broad-based ones include local socio-cultural factors, bureaucratic constraints, teacher attitudes, curriculum limitations as well as the need for the training of the stakeholders that is more comprehensive. What is required to overcome these barriers are systemic change, supportive leadership, and a commitment to provide an inclusive learning environment. By creating more inclusive and adaptable learning environments, schools can reduce the obstacles faced by students with disabilities and promote a more inclusive and equitable educational experience (Florian, 2014).

#### 5.2 Pedagogical approaches for students with ASD

Despite the fact that ASD is considered a form of lifelong disability, the right pedagogical approach can effectively contribute to the improvement of the individual's skills as well as functioning ( $B\dot{\alpha}\rho\beta\sigma\gamma\lambda\eta$ , 2007). In this sense, it is necessary to record and analyze the characteristics that make up the learner's postures, in order to replace them with others, which will contribute to the improvement of their daily life. In this context, the interface between teachers and students' families, in order to obtain data on students' particular abilities and interests, as well as the causes of student dissatisfaction, is particularly useful in formulating the appropriate educational program (Appleton et al., 2008).

Students with ASD have individualized pedagogical needs and require a different approach, focusing on visual stimuli and emphasizing repetition of activities (Peeters, 1997). Of particular importance is also the implementation of the necessary arrangements in the classroom to remove excess objects, which can contribute to the student's distraction and limit their concentration. This makes it possible to minimize cognitive confusion, while, at the same time, reducing the anxiety experienced by people with ASD due to their lack of ability to perceive and process environmental stimuli.

At the same time, it is imperative to emphasize strengthening the autonomy of people on the autism spectrum, with the aim of acquiring skills that allow them to meet the needs of everyday life. In addition, the school should prepare students to become familiar with patterns of behavior that are acceptable.

As for the pedagogical process, the multisensory approach, through the use of sounds and images, is particularly important, combined with the adoption of a school routine, which will allow the student to maintain control, understand what activities will be implemented and when and facilitate their seamless integration into the school environment. In addition, transitioning from simpler to more complex activities, but also from the most enjoyable to the least desirable for the student, is a tactic that aims to keep the student interested. Of particular importance is reward, which encourages students and works positively in terms of improving their academic performance and achieving learning goals. In addition, systematic evaluation of educational methodology gives teachers the opportunity to adjust objectives, but also to shape learning objects appropriately to meet students' needs.

In this regard, teachers have a particularly key role to play in ensuring that pupils with special educational needs are accepted by the school community and to encourage their integration into the school community (Hammond & Ingalls, 2003). In addition, building confidence and providing support to learners improves safety, while an individualised approach helps improve their performance (Patrick et al., 2007). In addition, teachers' interaction with parents and the constant redefinition of goals are extremely beneficial, creating a positive climate for students (Murray, 2002). The role of new technologies is also important, which can contribute to increasing flexibility and the level of accessibility, creating a multi-sensory environment ( $\Sigma\pi\nu\rho\acute{o}\pi\sigma\nu\lambda o\varsigma$ , 2016).

In these circumstances, the use of art, but also play, in the pedagogical approach of students with ASD contributes to the development of their skills. Specifically, according to research results, play has multiple cognitive and social advantages, mainly for preschool and school students (Αυγητίδου, 2001). From this finding, its therapeutic role has been demonstrated with respect to children with ASD and, in particular, in relation to the promotion of expression and communication (Carroll, 2002). With this assumption in mind, a modern therapeutic method, play therapy, was adopted and used to cultivate the skills of autistic students (Hess, 2006).

In the context of using this method, autonomy is enhanced, interface is fostered, and team spirit is promoted (Josefi & Ryan, 2004). In any case, the formation of relationships with others is considered an important prerequisite for the emotional and social advancement of students with ASD, which further increases the therapeutic value of play (Lowery, 1985). In fact, focusing on imaginative play is particularly important, while turning it into a learning tool, experientially, through enhanced creativity and

active participation, makes it imperative to use it in the educational process (Trevlas et al., 2003).

Interventions for children who have ASD focused on social and communication skills, and one strategy that seems to be gaining some traction as potentially having some efficacy is the Interim Early Start Denver Model (ESDM). ESDM refers to a comprehensive behavioral intervention program for children identified with ASD. The target population is children aged 12 to 60 months. This program expands Applied Behavior Analysis (ABA) strategies under developmental and relationship-based approaches aimed at supporting the development of children's social and cognitive skills (Rogers et al., 2012). A salient feature of ESDM is a focus on positively and meaningfully cultivating children's relationships with their caregivers, as these relationships are considered critical to optimal development. ESDM is most commonly administered in a naturalistic, play-based environment with which children can engage in activities that align with developmentally appropriate activations while still experiencing enjoyment (Dawson et al., 2010). This approach promotes the child's motivation towards learning and interaction with others because learning activations are embedded in playful and enjoyable contexts (Dawson et al., 2010). In fact, more recent research has found that ESDM has incredible potential to improve language and communication, as well as social behavior, as well as cognitive functioning in children with ASD (Rogers et al., 2017).

However, in addition to this aspect, studies have also observed that early EI with ESDM results in moderate patterns of brain activity associated with improvements in social behavior (Dawson et al., 2012). Although these encouraging results are encouraging overall, the effectiveness of ESDM still depends on individual factors such

as age, level of cognitive functioning, and severity of autism symptoms. So, while ESDM may be a good intervention for many children with ASD, this is not the definitive one for everyone. The process of deciding which interventions are best suited for a given child should involve careful assessment and equal consideration to that child's unique needs or strengths.

Another factor worth considering could be that ESDM requires a colossal time commitment from caregivers and professionals alike, as this involves intensive training in addition to frequent intervention sessions (Schreibman et al., 2015). This, therefore, can substantially drag down families, particularly scarce resources or support systems. More research is needed to determine aspects that may increase the feasibility and desirability of ESDM for families with varied needs. In addition, there is a call for a broad context by which the child develops, as well as other areas that affect well-being in many ways, including physical health, sleep, and nutrition (Estes et al., 2015).

Finally, ESDM holds promise as an intervention technique to increase cognitive, social, and communicative abilities in children diagnosed with ASD. However, each child requires understanding in relation to his or her individual need and context in order to determine how best to apply this particular intervention technique (Paweni & Rubovits, 2000).

Similarly, art has a beneficial effect on the education of autistic students (Rubin, 2005). More specifically, painting contributes to the promotion of imagination and self-expression, in the context of non-verbal communication, but also of sensory regulation (Rutten-Sarris, 2005). But music is also considered an art form, which works therapeutically for people on the autism spectrum, since, as a predictive means of communication, it is aimed at people of all ages and mental levels. Under these

conditions, the field of music therapy was created, which, taking data from scientific disciplines, such as psychology, medicine and pedagogy, contributes to the creation of a set of activities, based on the use of sounds, aimed at the mental and physical development of people with ASD (Srinivasan & Bhat, 2013). Therefore, despite the fact that music has a different effect on each individual, it can contribute, in general, to the promotion of communication skills, but also to the development of language, through activities such as, among others, listening to and playing lyrics.

#### 5.3 Inclusion of students with ASD

The promotion of inclusive policies and the increase in the percentage of students diagnosed with ASD has led to a change in the legislative framework, but also to the systematic study of the importance of integrating students into the school environment and recording good practices in this area (Leach & Duffy, 2009). The formation of a climate of acceptance and understanding, but, above all, the education of all those involved in the educational process, contribute to the formation of a culture of inclusion and the adoption of a positive attitude regarding the integration of students with ASD into the educational process. Inclusive policies ensure access to education for all members of society, which has a positive impact on the social interaction of students with ASD through daily interaction with formal school students (Robertson et al., 2003).

In our country, the integration of students with ASD in formal schools is supported by the institution of parallel support from special education teachers, but also by integration classes, in which students follow a specialized curriculum. Through these practices, the collaboration of special and general education teachers is achieved, with the aim of designing educational approaches, with the aim of shaping learning objects

in a way that meets the needs and particularities of students with ASD. The choice of how students attend depends on the severity of the situation and cognitive abilities, in order to ensure the smooth running of the school, but also the ability of the students to meet the requirements of the educational program (Jordan, 2005).

According to the results of the research, both special education and general education teachers recognize the importance of cooperation between them in managing the cases of students with ASD in school classes (Henderson et al., 2007). In any case, inclusion is beneficial, not only for students with special educational needs, but also for formal education learners, as it promotes fluid coexistence within the educational community and respect for diversity (Keefe & Moore, 2004). Particularly for students with ASD, inclusion is based on the principle that learning socially acceptable behaviors and acquiring social skills can be achieved through active coexistence with individuals who do not have limited social communication (Kluth, 2010).

More broadly, the integration of students with autism into mainstream educational settings requires the reconfiguration of curricula, but also the training of teachers, to know both the cognitive mechanisms of this category of learners and the methods to promote their social skills. Today, therefore, formal schools are making efforts to respond to the growing number of learners with ASD by facilitating their successful integration into general education classes (Ferraioli & Harris, 2011). The most important interventions that need to be carried out for the successful inclusion of autistic students are summarized as follows:

 Adaptation of the curriculum and, more generally, the school environment: The education of students with ASD aims to reduce cognitive confusion and anxiety, but also to teach skills that reduce barriers to social interaction. Particular emphasis should be placed on adopting alternative teaching methods and enriching them with visualized material, which focuses on students' interests (Mesibov & Shea, 2011). In addition, due to the sensory sensitivity of students with ASD, it is important to create an isolated space, with minimal visual stimuli and physical obstacles (Perko & McLaughlin, 2002).

- ii. Social and behavioral support: One of the key characteristics of students with ASD is limited social interaction, which can be enhanced through teaching, through peer mediation, as research results have shown (Sperry et al., 2010). At the same time, students with ASD may engage in challenging or aggressive behaviors, and for this reason, a functional examination of their behavior is imperative to construct the appropriate intervention framework (Tracey Galiatsatos & Graff, 2003).
- iii. Development of cooperation between the school and the family environment: According to research, open communication and the provision of teacher support to families of students with ASD has significant benefits in terms of their seamless integration into formal classes (Coffey & Obringer, 2004). Any cultural factors should also be taken into account in the case of students with different cultures (Wilder et al., 2004).

Therefore, the successful management of inclusive policies depends on the understanding of the particularities and needs of students with ASD, the knowledge and beliefs of both special education teachers and general teachers, the interaction of the school and family environment, the support services provided, modifications to curricula, and the continuous evaluation of these policies (Gavaldá & Qinyi, 2012). A

key component is also the determination of the severity of the situation and the identification of parameters that can improve or slow down the process, such as language skills, any behavioural problems such as aggression and stereotyped behaviours, but also the mental capacity of the learner (Eldar et al., 2010).

In addition, it's essential to emphasize that a primary objective of inclusive education is fostering positive interaction between students with ASD and their typically developing peers (Harrower & Dunlap, 2001).

Finally, a prerequisite for the smooth transition of a learner with ASD to a formal education school is the formulation of individualized educational programs and adequate preparation of teachers to have the required knowledge, combined with cooperation with special education teachers, in order to cultivate a positive climate (Avramidis et al., 2000).

Studies have shown that teachers' flexibility and willingness to change their instructional strategies to meet the needs of students with ASD are essential factors in determining successful inclusion. A systematic review of studies on teaching practices for students with ASD found that successful inclusion involves the implementation of evidence-based strategies tailored to the individual needs of students, focusing on social and communication skills, and providing a structured and predictable environment (Odom et al., 2010). Studies indicated that the use of visual aids such as schedules, social stories, and video models were especially effective methods for training students on how best to train social skills (Bellini & Akullian, 2007).

In addition, instructional strategies such as task analysis, peer-mediated instruction, and self-management have been successful in teaching academic and

functional skills to students diagnosed with ASD (Koegel et al., 1999; National Autism Center, 2015). Now that inclusion is likely difficult for both teachers and students diagnosed with ASD, there needs to be ongoing professional development along with teacher support so that they can continue to achieve (Harrower & Dunlap, 2001).

Furthermore, peer-mediated interventions in which typically developing students are empowered to interact with and support students affected by ASD have been shown to be effective for any potential improvement in the social and academic outcomes of students affected by ASD, as well as for promoting acceptance and positive attitudes among their peers (Laushey & Heflin, 2000; Chan et al., 2009). Examples of partner mates, circle of friends, and lunch buddy programs have been shown to be effective in increasing the number of social interactions a student with ASD experiences (Bass & Mulick, 2007).

Another key factor for successful inclusion is the active involvement of parents, who can offer valuable information and insights into their children's strengths and needs, as well as work with teachers to develop and implement effective interventions and supports (Stoner et al., 2005). Other critical aspects include ongoing evaluation and monitoring of progress to determine the success of interventions and making data-driven decisions to modify instruction or changes in supports aimed at meeting the changing needs of students with ASD (National Autism Center, 2015).

Since students with ASD have varying needs and abilities, individualized educational programs (IEPs) and customized accommodations and modifications are crucial to successful student inclusion (Yell et al., 2005). In addition, creating a culture of acceptance in the classroom, as well as fostering student growth towards mutual

understanding and empathy is also important in an environment that allows each student to realize their full potential (Sapon-Shevin, 2007).

#### 5.4 Teachers' attitudes towards the inclusion of students with ASD

Several researches have been done in Greece and in Europe as well, in recent years, through which there was an attempt to investigate teachers' attitudes concerning the possibility of including students with ASD in school. These studies point towards a multifaceted picture, influenced possibly by factors such as economic conditions, cultural context, teacher training, and the availability of resources.

In Greece, the research has shown that even though there is conceptual support for inclusion among educators, its actual implementation faces several barriers. Kossyvaki (2021) noted the complexity of this issue taking into account country's cultural peculiarities and recent economic crisis influences. This study points out that it had been important for the system to contributing in teacher training process, family roles, as well as societal attitude, in order to make effective inclusive practices possible at Greek schools.

The situation in Ireland is characterized by the same challenges. According to Leonard and Smyth (2022), most of the teachers of Irish primary education have developed a negative or indifferent attitude towards the issue of children with Autism Spectrum Disorder (ASD) inclusion in mainstream education. The analysis of this study implies that attitudes will be greatly enhanced if teachers believe they have enough resources to implement inclusion, hence revealing the significance of providing the educators with the tools and support required.

In another Greek study, Giannoulis et al. (2021) were interested in exploring the training needs and attitudinal profile of the Greek educationalists regarding inclusive

education related to pupils with ASD. Although there is a general belief in the principle of inclusion, there are practical barriers as the financial crisis and budget cuts in the educational domain drive to profound challenges. This leaves the teachers in an ambivalent state as to the best way of how this inclusive education should be practiced while at the same time ensuring that there is no threat on the safety and well-being of the autistic children.

Furthermore, the European context as studied by Lindblom et al. (2020) illustrates how the teacher education plays a significant role in preparing them for inclusive education. This study points out that proper training and positive attitude towards ASD found in teacher education programs assure inclusive educational success especially noticed in European countries.

In conclusion, therefore, while all these studies seem to point those some general principles of support regarding inclusive education, practical challenges currently limit the effective implementation of inclusive education both in Greece and across Europe. Some of these challenges include economic obstacles, deficiency in all-inclusive teacher training as well as varying attitude to specific disabilities. Rectifying the challenges by targeted teacher training, diversion of resources and cultural change is important in increasing positive attitude and practice towards students with ASD as far as inclusive education is concerned.

# **Chapter 6: Methodology**

#### 6.1 Research method

The purpose of this doctorate thesis is to investigate teachers' attitudes toward the incorporation of students with autism (Gall et al., 1996).

Based on the above purpose, the following research questions arise:

- 1) Is there a difference between the demographics of teachers and their perceptions of students with ASD?
- 2) Is there a difference between teacher demographics and teachers' beliefs regarding the efficacy of inclusion?
- 3) Is there a difference between the demographics of teachers and their perceptions of professional roles and functions?
- 4) Is there a relationship between teachers' perceptions of students with ASD, teachers' beliefs about the effectiveness of inclusion, and teachers' perceptions of professional roles and functions?

Based on the purpose of the previous research, we chose to use a quantitative methodology to answer the research questions (Creswell & Creswell, 2017). Quantitative research is appropriate because a large amount of data can be collected quickly and easily, while at the same time the data can be processed statistically (Bryman, 2016).

#### **6.2 Participants - Sample**

The research population consisted of general and special education teachers working in schools and educational structures in Greece. The sampling method used was selective sampling, since when the selected sample is representative of the total

population it can provide reliable estimates and generalizations for the entire population. In addition, selective sampling allows data to be collected from a subset of the population and the process is faster than collecting data from the entire population, which is useful when research time is limited. The total sample consisted of 280 professors and the range of the sample was such as to ensure the reliability of the research (Cohen et al., 2018).

#### 6.3 Data collection tools

The selection of this research tool was made in order to draw objective conclusions. In addition, unlike other research methods, such as qualitative research or case studies, this methodology is based on the counting and analysis of the data to be collected, ensuring the validity of the conclusions (Bryman, 2016). In addition, the research tool used is a structured questionnaire, consisting of closed-ended questions and was created using Google Forms. The first section of the questionnaire consists of demographic and general data of teachers. The second section of the questionnaire examines teachers' attitudes toward the inclusion of students with ASD. This section used the questionnaire "The Teacher Attitudes Toward Inclusion Scale (TATIS)", constructed by Cullen et al. (2010) after they considered it suitable for the development of their own questionnaire and used in Wilkerson's (2012) doctoral thesis to assess teachers' attitudes about the inclusion of students with ASD. This scale consists of 14 Likert statements of 7/point (1: Strongly Agree – 7: Strongly Disagree Very Strongly). Questions 1 to 6 are "Teacher perceptions of students with mild to moderate disabilities," questions 7 to 10 are "Beliefs about the efficacy of inclusion," and questions 11 to 14 are "Perceptions of professional roles and functions." The time to complete the questionnaire was 10 to 15 minutes, so that it was not exhausting for the participants and they did not stop filling it out (Creswell & Creswell, 2017).

#### 6.4 Data collection

This survey was conducted in the third quarter of 2023. The questionnaire was administered to general and special education teachers from all schools in Greece. The questionnaire was administered electronically via e-mail due to the impossibility of conducting the survey in real life and for greater ease of access by the participants. Teachers were asked to answer all questions after being informed of the purpose of the survey, and were also assured of the anonymity of their responses (Fink, 2015).

In particular, the consent form states that the survey is conducted for academic purposes only and requires the completion of a short questionnaire. In addition, it is clarified that participation is voluntary and no remuneration is provided, however, the responses are valuable in drawing conclusions, which will serve as a basis for future research on the topic of the participation of students with ASD in inclusive education. In addition, it is clarified that no part of the questionnaire requires the completion of personal information, such as name or address, and the responses collected will be confidential and will not be used for any purpose other than the specific survey. Finally, it is clarified that participants have the possibility to stop completing the questionnaire, at any time, without having to justify their decision and that their anonymity is guaranteed (Fink, 2015)

The questionnaires were sent via email and returned within 40 days. The collected data were then analysed.

#### 6.5 Data analysis

Data analysis was performed using the SPSS 23.0 (Statistical Package for Social Sciences). First, the researcher downloaded the Excel sheet with the participants' answers. He then coded them and inserted them into the SPSS sheet. Next, the

researcher performed a descriptive analysis with the help of diagrams and tables of frequencies and percentages. Finally, the t-test, ANOVA and Pearson's correlation were performed, with a significance level of 5% (Bryman, 2016).

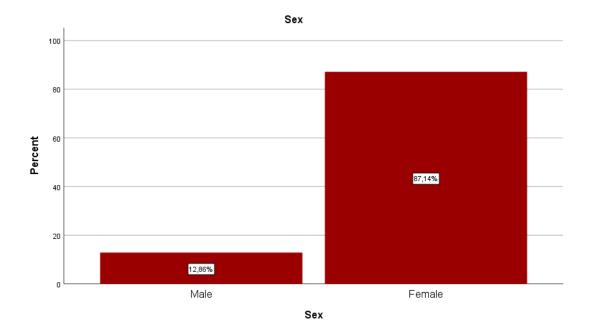
# **Chapter 7: Analysis of results**

# 7.1 Analysis of demographic characteristics

A total of 280 teachers participated in this survey, the majority of whom were women (N=244, 87.1%) and 12.9% of whom were men.

## Diagram 1

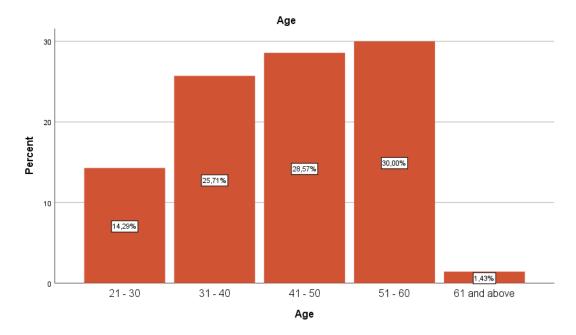
Gender



**Diagram 2** shows that most of the teachers were between 51 and 60 years old (N = 84.30%). 28.6% of teachers were between 41 and 50 years old, 25.7% of participants were between 31 and 40 years old, 14.3% of participants were between 21 and 30 years old, and 1.4% of participants were over 61 years old.

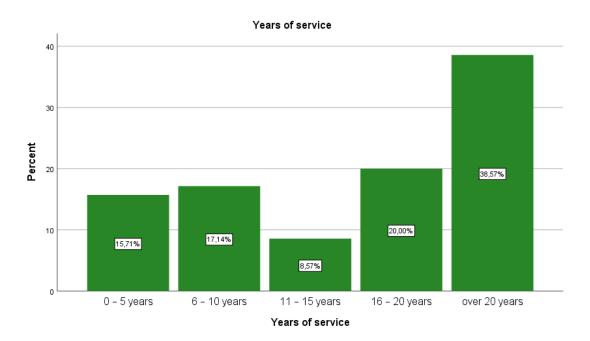
## Diagram 2

Age



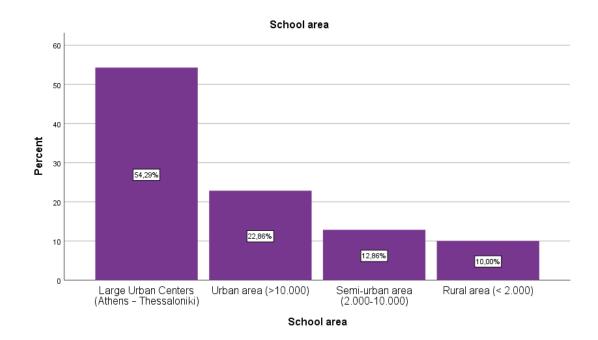
**Diagram 3** indicates that the majority of teachers possessed 20 years of experience (N=108, 38.6%). 20% of participants had between 16 and 20 years of experience, 17.1% of participants had experience ranging from 6 to 10 years, 15.7% had experience between 0 and 5 years, and 8.6% had experience ranging from 11 to 15 years.

## Diagram 3



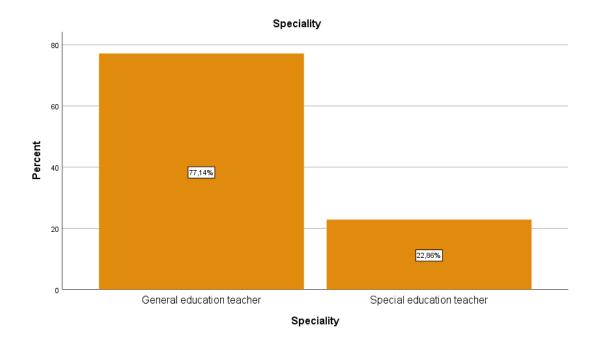
In **Diagram 4**, it is observed that to a greater extent the participating subjects teach in urban areas (Athens - Thessaloniki) (N = 152, 54.3%). While to a lesser extent they teach in urban places with a population greater than 10.000 inhabitants (22.9%), semi-urban, which represents between 2.000 and 10.000 inhabitants (12.9%) and, finally, in rural areas comprising fewer than 2.000 inhabitants (10%).

### School area



**Diagram 5** shows that most of the participants were general education teachers (N=216, 77.1%) and 22.9% of the participants were special education teachers.

Diagram 5
Speciality

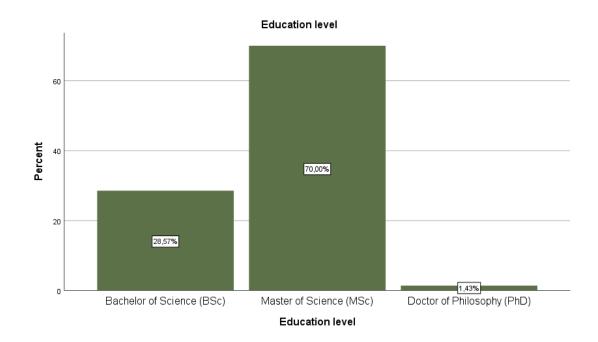


**Diagram 6** shows that most of the teachers had a master's degree (N = 196, 70%).

Of these, 28.6 per cent had a bachelor's degree and 1.4 per cent had a doctorate.

Diagram 6

Education level



**Diagram** 7 illustrates that the majority of teachers are not employed in special schools (N=252, 90%), with only 10% of them work in such schools.

Diagram 7

Working in special schools

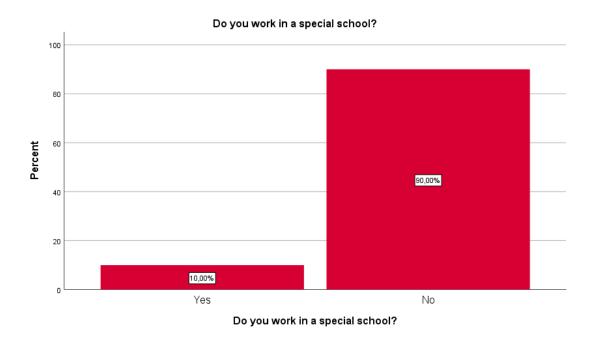
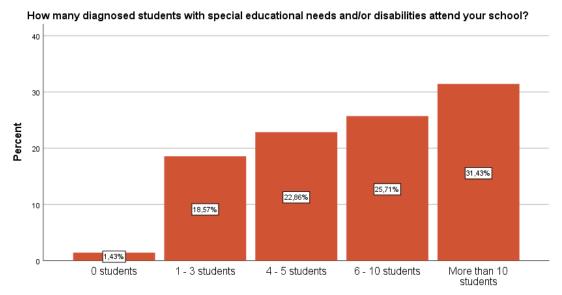


Diagram 8 indicates that most teachers stated that their classrooms have over 10 students diagnosed with special needs and/or disabilities (N = 88, 31.4%). Specifically, 25.7% of teachers indicated that they have 6 to 10 such students, 22.9% reported having 4 to 5 students, 18.6% stated they have 1 to 3 students, and 1.4% mentioned having no students with diagnosed special needs and/or disabilities attending their classrooms.

**Diagram 8**Number of students diagnosed in the classroom with special needs and/or disabilities



How many diagnosed students with special educational needs and/or disabilities attend your school?

Table 1 shows that the majority of respondents stated that they have participated in a seminar aimed at supporting students identified as ASD-HFA (N=29, 41.4%). However, 40% of teachers mentioned they haven't undergone any formal education or training in this area. Among the participants, 28.6% hold a doctorate, 14.3% have a master's degree, and 10% have undergone more than 400 hours of specialized training to assist students with ASD-HFA.

**Table 1**Types of Education or Training to Assist Students with ASD-HFA

	N	%
Bachelor's degree studies	10	14.3%
Postgraduate studies	20	28.6%
Ph.D. studies	0	0%
Training totaling over 400	7	10%
hours		

Seminar	29	41.4%
No	28	40%

Table 2 shows that the majority of teachers indicated having some level of experience or training in working with students diagnosed with ASD-HFA, despite serving as educators in a mainstream school environment (N=37, 52.9%). Specifically, 28.6% of teachers mentioned a lack of specific experience in this regard. However, 18.6% of teachers have experience as support teachers in mainstream schools, 15.7% have experience in special schools, and 5.7% have experience in Diagnostic Assessment Counseling and Support Centers, all involving working with students with ASD-HFA.

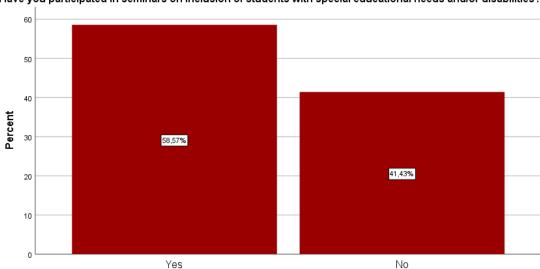
 Table 2

 Specific Work or Educational Experience of Students with ASD-HFA

	N	%	
Yes. In a general school, gene	ral		
school teacher	37	52.9%	
Yes. In a general school, paral	le1		
support	13	18.6%	
Yes. In a special school	11	15.7%	
Yes. In Diagnostic Assessmen	ent		
Counseling and Support Cente	rs 4	5.7%	
No	20	28.6%	

**Diagram 9** shows that most teachers have engaged in seminars centered on the integration of students with special educational needs and/or disabilities (N=164, 58.6%), while 41.4% of them have not participated in such seminars.

**Diagram 9**Attending seminars aimed at integrating of students with special educational needs and/or disabilities



Have you participated in seminars on inclusion of students with special educational needs and/or disabilities?

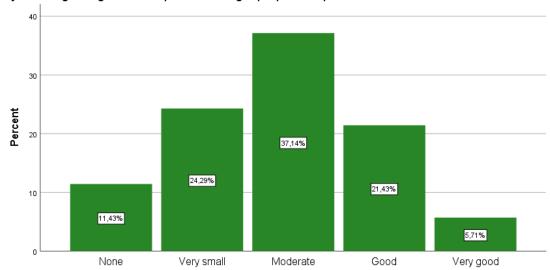
Have you participated in seminars on inclusion of students with special educational needs and/or disabilities?

the majority of teachers indicated that their understanding of legislation and policies concerning individuals with special educational needs and/or disabilities is at a moderate level (N=104, 37.1%). Specifically, 24.3% of educators stated their knowledge in this area is very low, 21.4% reported it as good, 11.4% claimed to have no knowledge, and 5.7% considered their knowledge to be very good.

**Diagram 10** shows that the majority of teachers indicated that their understanding of legislation and policies concerning individuals with special educational needs and/or disabilities is at a moderate level (N=104, 37.1%). Specifically, 24.3% of educators stated their knowledge in this area is very low, 21.4% reported it as good, 11.4% claimed to have no knowledge, and 5.7% considered their knowledge to be very good.

### Diagram 10

Your comprehension of legislation and policies concerning individuals with special educational needs and/or disabilities



My knowledge of legislation and policies relating to people with special educational needs and/or disabilities is

My knowledge of legislation and policies relating to people with special educational needs and/or disabilities is

# 7.2 Analysis of teachers' opinions on inclusion with The Teacher Attitudes toward Inclusion Scale (TATIS)

**Table 3** shows that respondents maintain a neutral opinion that the majority, if not all, segregated classrooms exclusively serving students with ASD-HFA (Autism Spectrum Disorder – High Functioning Autism) should be removed (M = 4.2, S.D. = 1.65) and that it is rarely necessary to remove students with ASD-HFA from mainstream classes to accommodate teachers their needs (M = 4.7, S.D. = 1.53).

Table 3 shows that participants agree that all students diagnosed with ASD-HFA should receive education in mainstream classes alongside their non-disabled peers to the fullest extent feasible (M = 3.4, S.D. = 1.60). Teachers also agree that students with

ASD-HFA can receive more effective training in mainstream classrooms compared to special education classes (M = 3.4, S.D. = 1.33). Teachers also agree that inclusion proves to be a more effective approach for educating students with ASD-HFA as it minimizes transition time, which refers to the time needed for moving between different settings (M = 3, S.D. = 1.19). Finally, teachers concur that the majority, if not all, mainstream classrooms can be adapted to accommodate the requirements of students with ASD-HFA. (M = 2.9, S.D. = 1.37).

**Table 3**Teachers' views regarding students with mild to moderate disabilities

	Mean	Standard
		deviation
The majority, if not all, segregated classrooms exclusively serving students with	4.2	1.65
ASD-HFA (Autism Spectrum Disorder - High Functioning Autism) should be		
phased out.		
It's uncommon for students with ASD-HFA to require removal from mainstream	3.7	1.53
classrooms to address their educational needs.		
All students with ASD-HFA should receive education in mainstream classrooms	3.4	1.60
alongside non-disabled peers to the fullest extent feasible.		
Students with ASD-HFA might receive more effective education in mainstream	3.4	1.33
classrooms rather than in specialized education settings.		
Incorporating students with ASD-HFA into mainstream settings proves to be a	3.0	1.19
more efficient educational model as it minimizes transition time, which refers to		
the duration required for moving between different environments.		
The majority, if not all, mainstream classrooms can be adjusted to accommodate	2.9	1.37
the requirements of students with ASD-HFA.		

Table 4 shows that teachers disagree that students diagnosed with ASD-HFA should not be educated in mainstream classes alongside non-disabled peers due to concerns about it consuming too much of the teacher's time (M = 5.2, S.D. = 1.34). Teachers also disagree that they have doubts regarding the efficacy of integrating students with ASD-HFA in mainstream classes as they frequently lack the academic skills essential for achievement (M = 4.8, S.D. = 1.59). In addition, teachers disagree that they have doubts about the efficacy of integrating students with ASD-HFA in mainstream classes as they frequently lack the social skills crucial for success (M = 4.8, S.D. = 1.59). Finally, participants maintain a neutral opinion that mainstream educators often struggle to effectively support students with ASD-HFA, despite their best efforts (M = 3.8, S.D. = 1.66).

 Table 4

 Perceptions regarding the effectiveness of inclusion

	Mean	Standard
		deviation
Students with ASD-HFA should not be placed in mainstream classes alongside	5.2	1.34
students without disabilities due to concerns that they will demand too much		
of the teacher's time.		
I have doubts regarding the efficacy of integrating students with ASD-HFA	4.8	1.59
into mainstream classrooms, as they frequently lack the academic skills		
essential for success.		
I have doubts regarding the efficacy of integrating students with ASD-HFA	4.8	1.45
into mainstream classrooms because they frequently lack the social skills		
essential for success.		
In my observation, mainstream educators often don't have success with	3.8	1.66
students with ASD-HFA, even when they try their best.		

Table 5 shows that teachers agree that they would be willing to teach in groups as role models for meeting the needs of students with ASD-HFA in mainstream classes (M = 2.5, S.D. = 1.38). Also, from the table below, teachers strongly agree that group teaching benefits all students. This refers to the collaboration of a general education teacher and a special education teacher within the same classroom. (M = 2.2, S.D. = 1.37). Also, from the table below, teachers strongly agree that responsibility for the education of students with ASD-HFA in mainstream classrooms should be shared among general and special education teachers (M = 2.1, S.D. = 1.21). Finally, in the table below, teachers strongly agree that they would be happy to have the opportunity to participate in an educational counselor model as a means of addressing the needs of students with ASD-HFA in regular classes (M = 2.1, S.D. = 1.21).

**Table 5** *Views on professional roles and functions* 

	Mean	Standard	
		deviation	
I would appreciate the chance to collaborate as a team, serving as a model to	2.5	1.38	
address the needs of students with ASD-HFA in mainstream classrooms.			
The task of educating students with ASD-HFA in mainstram classrooms should	2.2	1.37	
be divided between general and special education teachers.			
All students benefit from team teaching; that is, the pairing of a general	2.1	1.21	
education teacher and a special education teacher in the same classroom.			
I would like the opportunity to participate in a consulting teacher model as a	2.1	1.34	
means of addressing the needs of students with ASD-HFA in regular classrooms			

# 7.3 Comparison of Demographic Characteristics and Teachers' Attitudes Towards the Inclusion of Students with ASD

**Table 6** shows the results of the ANOVA analysis examining the relationship between teachers' age and their attitudes towards including students with ASD. The analysis indicates a statistically significant difference in teachers' beliefs regarding the effectiveness of including students with ASD based on age ( $F_{4, 279} = 3.274$ , p<5%). Specifically, teachers aged 51 to 60 years tended to agree more strongly that students with ASD achieve better integration compared to those aged 31 to 40 years (M.D. = -2.43, p<5%).

**Table 6** further demonstrates a notable statistical difference between teachers' age groups and their views regarding professional roles and functions ( $F_{4, 279} = 2,797$ , p<5%). Specifically, teachers aged 31 to 40 exhibit a stronger understanding of professional roles and functions compared to those aged 21 to 30 years (M.D. = -2.3, p<5%).

**Table 6**ANOVA control between teachers' ages and their attitudes towards including students with ASD

		Sum of	Mexic	Medium	F	Gis.
		squares	o City	Square		
Teachers' Views on Students	Between groups	60.051	4	15.013	.445	.776
with Mild to Moderate	Inside Groups	9277.321	275	33.736		
Disabilities	Total	9337.371	279			
Beliefs regarding the	Between groups	278.305	4	69.576	3.274	.012
effectiveness of inclusion	Inside Groups	5844.038	275	21.251		
	Total	6122.343	279			
	Between groups	180.190	4	45.048	2.797	.026

Views on professional roles	Inside Groups	4429.010	275	16.105
and responsibilities	Total	4609.200	279	

Table 7 presents the results of the ANOVA analysis examining the relationship between teachers' years of service and their attitudes toward including students with ASD. The analysis reveals a statistically significant difference in teachers' perceptions of students with mild to moderate disabilities based on years of service ( $F_{4,279} = 4,413$ , p<5%). Specifically, teachers with 11 to 15 years of service hold more positive perceptions regarding the inclusion of students with ASD compared to those with 0 to 5 years (M.D. = -4.4, p<5%), 16 to 20 years (M.D. = -4.4, p<5%), and over 20 years of service (M.D. = -4.1, p<5%).

**Table** 7 also indicates a statistically notable distinction between teachers' years of service and their beliefs regarding the effectiveness of including students with ASD  $(F_{4, 279} = 8,050, p<5\%)$ . Teachers with over 20 years of service tended to agree more strongly that students with ASD achieve better integration compared to those with 6 to 10 years (M.D. = -2.32, p<5%), 11 to 15 years (M.D. = -4.91, p<5%), and 16 to 20 years of service (M.D. = -2.72, p<5%).

In conclusion, **Table** 7 demonstrates a statistically significant variance between teachers' years of service and their views on professional roles and functions ( $F_{4,279} = 7.669$ , p<5%). Specifically, teachers with 0 to 5 years of service exhibit a diminished level of perception regarding professional roles and functions in contrast to their counterparts with more years of service.

**Table 7**ANOVA analysis comparing teachers' years of service with their attitudes toward including students with ASD

		Sum of	Mexic	Medium	F	Gis.
		squares	o City	Square		
Teachers' Views on	Between groups	563.230	4	140.807	4.413	.002
Students with Mild to	Inside Groups	8774.142	275	31.906		
Moderate Disabilities	Total	9337.371	279			
Beliefs regarding the	Between groups	641.745	4	160.436	8.050	.000
effectiveness of inclusion	Inside Groups	5480.598	275	19.929		
	Total	6122.343	279			
Views on professional	Between groups	460.240	4	115.060	7.626	.000
roles and functions	Inside Groups	4148.960	275	15.087		
	Total	4609.200	279			

**Table 8** shows the results of the ANOVA analysis examining the relationship among teachers, school districts, and teachers' attitudes toward including students with ASD. The analysis indicates a statistically notable distinction between teachers' school areas and their perceptions of students with mild to moderate disabilities ( $F_{3, 279} = 3,880$ , p<5%). Specifically, educators working in large urban areas (Athens - Thessaloniki) tend to have more positive perceptions of students with mild to moderate disabilities in comparison to teachers working in countryside areas (M.D. = - 2.9, p<5%).

In conclusion, **Table 8** indicates a statistically notable difference between the location of teachers' schools and their perceptions of professional roles and functions  $(F_{3,279} = 5.443, p < 5\%)$ . Educators working in large urban areas (Athens - Thessaloniki) demonstrate more positive perceptions of professional roles and functions in comparison to those teaching in urban (M.D. = -2.02, p < 5\%) and countryside areas (M.D. = -2.32, p < 5%).

**Table 8**ANOVA comparison between teachers from different school districts and their attitudes towards including students with ASD

		Sum of	Mexico	Medium	F	Gis.
		squares	City	Square		
Teachers' Views on	Between groups	377.904	3	125.968	3.880	.010
Students with Mild to	Inside Groups	8959.468	276	32.462		
Moderate Disabilities	Total	9337.371	279			
Beliefs regarding the	Between groups	98.208	3	32.736	1.500	.215
effectiveness of inclusion	Inside Groups	6024.135	276	21.827		
	Total	6122.343	279			
Views on professional	Between groups	257.472	3	85.824	5.443	.001
roles and functions	Inside Groups	4351.728	276	15.767		
	Total	4609.200	279			

**Table 9** presents the results of the t-test examining the relationship between teachers' specialization and their attitudes toward including students with ASD. The analysis reveals a statistically notable difference between teacher specialization and their views on students with mild to moderate disabilities ( $t_{278} = 3.625$ , p<5%). Specifically, general education teachers demonstrate more positive views on students with mild to moderate disabilities (M = 21.3, S.D. = 5.62) in comparison to special education teachers (M = 18.4, E.D. = 5.81).

In conclusion, **Table 9** indicates a statistically notable distinction among teachers' specialization and their views on professional roles and functions ( $t_{278} = 4.241$ , p<5%). Specifically, general education teachers exhibit more positive views on professional roles and functions (M = 9.4, S.D. = 4.18) in comparison to special education teachers (M = 7.1, E.D. = 2.99).

**Table 9** *T-test comparing teachers' specialization and their attitudes towards including students with ASD* 

	Speciality	N	Mean	Standard	t	Mexico	Gis
				deviation		City	
Teachers' Perceptions of	General Education	216	21.3	5.62	3.625	278	0.000
Students with Mild to	Teacher						
Moderate Disabilities	Special Education	64	18.4	5.81			
	Teacher						
Beliefs regarding the	General Education	216	18.4	4.69	-1.360	278	0.175
effectiveness of inclusion	Teacher						
	Special Education	64	19.3	4.64			
	Teacher						
Perceptions of	General Education	216	9.4	4.18	4.241	278	0.00
professional roles and	Teacher						
functions	Special Education	64	7.1	2.99			
	Teacher						

Table 10 presents the results of the ANOVA test examining the relationship between teachers' educational level and their attitudes toward including students with ASD. The analysis reveals a statistically notable difference among teachers' educational level and their beliefs regarding the efficacy of integrating students with ASD ( $F_{2, 279} = 4.831$ , p<5%). Specifically, professors with bachelor's degrees tend to agree more strongly that students with ASD achieve better integration compared to those with master's degrees (M.D. = -1.64, p<5%).

In conclusion, **Table 10** indicates a statistically notable difference among teachers' educational level and their views on professional roles and functions ( $F_{2,279} = 3.094$ , p<5%). Specifically, educators with PhDs demonstrate a higher perception of professional roles and functions compared to those with a master's degree (M.D. = -5.04, p<5%).

Table 10

ANOVA analysis comparing teachers' educational levels and their attitudes towards including students with ASD

		Sum of	Mexic	Medium	F	Gis.
		squares	o City	Square		
Teachers' Views on Students	Between groups	6.682	2	3.341	.099	.906
with Mild to Moderate	Inside Groups	9330.690	277	33.685		
Disabilities	Total	9337.371	279			
Beliefs regarding the	Between groups	206.343	2	103.171	4.831	.009
effectiveness of inclusion	Inside Groups	5916.000	277	21.357		
	Total	6122.343	279			
Views on professional roles and	Between groups	100.727	2	50.363	3.094	.047
functions	Inside Groups	4508.473	277	16.276		
	Total	4609.200	279			

Table 11 presents the results of the t-test analyzing the relationship between teachers' attitudes toward including students with ASD and their employment status in a special school. The analysis indicates a statistically notable difference between working in a special school and teachers' perceptions of students with mild to moderate disabilities ( $t_{278} = -3.425$ , p<5%). Specifically, educators who do not work in a special school tend to have less positive views on students with mild to moderate disabilities (M = 21, S.D. = 5.82) in comparison to those working in a special school (M = 17.1, S.D. = 4.05).

**Table 11** *T-test comparing teachers' attitudes towards including students with ASD and their employment in a special school* 

	Do you work in a	N	Mean	Standard	t	Mexico	Gis
	special school?			deviation		City	
Teachers' Views on	Yes	28	17.1	4.05	-3.425	278	0.001
Students with Mild to	No	252	21.0	5.82			
Moderate Disabilities							
Beliefs regarding the	Yes	28	19.1	5.15	0.629	278	0.530
effectiveness of inclusion	No	252	18.6	4.64			
Views on professional roles	Yes	28	9.6	6.11	0.921	278	0.358
and functions	No	252	8.8	3.78			

Table 12 shows the outcomes of the ANOVA test examining the connection between the number of children diagnosed with ASD attending school and teachers' attitudes towards the inclusion of students with ASD. The analysis reveals a statistically notable difference between the number of children diagnosed with ASD attending school and teachers' beliefs about the efficacy of integration ( $F_{4, 279} = 4.155$ , p<5%). Specifically, teachers who reported having more than 10 students diagnosed with ASD in their school showed a decreased tendency to agree that students with ASD experience more effective integration compared to teachers who reported having 4 to 5 students diagnosed with ASD (M.D. = 2.18, p<5%) or 6 to 10 students diagnosed with ASD in their school (M.D. = 2.07, p<5%).

**Table 12** *ANOVA analysis examining the relationship between the number of children diagnosed with ASD attending school and teachers' attitudes towards including students with ASD* 

Sum	of	Mexic	Medium	F	Gis.
square	s	o City	Square		

Teachers' Views on Students	Between groups	209.480	4	52.370	1.578	.180
with Mild to Moderate	Inside Groups	9127.891	275	33.192		
Disabilities	Total	9337.371	279			
Beliefs regarding the	Between groups	348.910	4	87.228	4.155	.003
effectiveness of inclusion	Inside Groups	5773.433	275	20.994		
	Total	6122.343	279			
Views on professional roles and	Between groups	71.832	4	17.958	1.088	.363
functions	Inside Groups	4537.368	275	16.500		
	Total	4609.200	279			

Table 13 presents the results of the t-test examining the relationship between teachers' engagement in seminars for integrating students with special educational needs and/or disabilities and their attitudes towards including students with ASD. The analysis reveals a statistically notable difference between teachers' seminar participation and their views on students with mild to moderate disabilities ( $t_{278} = -2.090$ , p<5%). Specifically, teachers who haven't attended seminars on including students with special educational needs and/or disabilities generally hold less favorable perceptions about including students with ASD (M = 21.5, S.D. = 6.25) compared to those who have attended such seminars (M = 20.0, S.D. = 5.37).

Additionally, **Table** 13 indicates a statistically notable difference between teachers' attendance at seminars concentrating on the inclusion of students with special educational needs and/or disabilities and their beliefs about the efficacy of integrating students with ASD ( $t_{278} = 6.921$ , p<5%). Teachers who had attented such seminars were less inclined to agree that students with ASD experience more effective inclusion (M = 20.1, S.D. = 4.40) in comparison to those who had not attented seminars on the inclusion of students with special educational needs and/or disabilities (M = 16.5, S.D. = 4.24).

In cocnclusion, **Table 13** demonstrates a statistically notable difference between teachers' attendance at seminars focused on the inclusion of students with special educational needs and/or disabilities and their beliefs about professional roles and functions ( $t_{278} = -2.891$ , p<5%). Teachers who participated in seminars on integrating students with special educational needs and/or disabilities generally exhibit a higher perception of professional roles and functions (M = 8.3, S.D. = 4.05) compared to those who did not participate in such seminars (M = 9.7, S.D. = 3.96).

**Table 13**Verification of the T-test comparing teachers' attitudes towards including students with ASD and their participation in seminars for the inclusion of students with special educational needs and/or disabilities

	Have	you	N	Mean	Standard	t	Mexico	Gis
	participated	in			deviation		City	
	seminars	on						
	integration	of						
	students	with						
	special educa	ational						
	needs	and/or						
	disabilities?							
Teachers' Views on	Yes		164	20.0	5.37	-2.090	278	0.037
Students with Mild to	No		116	21.5	6.25			
Moderate Disabilities								
Beliefs regarding the	Yes		164	20.1	4.40	6.921	278	0.000
effectiveness of	No		116	16.5	4.24			
inclusion								
Views on professional	Yes		164	8.3	4.05	-2.891	278	0.004
roles and functions	No		116	9.7	3.96			

Table 14 presents the outcomes of the ANOVA test examining the connection between teachers' understanding of legislation and policies regarding individuals with special educational needs and/or disabilities and their attitudes toward including students with ASD. The analysis reveals a statistically significant difference between teachers' knowledge of legislation and policies and their perceptions of students with mild to moderate disabilities ( $F_{4,279} = 7.831$ , p<5%). Specifically, teachers with limited understanding of legislation and policies regarding individuals with special educational needs and/or disabilities tend to hold more favorable attitudes toward including students with ASD compared to others.

Table 14 also shows a statistically notable difference between teachers' knowledge of legislation and policies concerning individuals with special educational needs and/or disabilities and their beliefs about the efficacy of including students with ASD ( $F_{4, 279} = 9.415$ , p<5%). Educators with limited understanding of legislation and policies regarding individuals with special educational needs and/or disabilities tend to hold a greater extent of positive beliefs about the effectiveness of including students with ASD.

In conclusion, **Table 14** indicates a statistically significant difference between teachers' understanding of legislation and policies concerning individuals with special educational needs and/or disabilities and their views on teachers' professional roles and functions ( $F_{4,279} = 14.318$ , p<5%). Educators with limited understanding of legislation and policies related to individuals with special educational needs and/or disabilities tend to hold a greater extent of positive perception of teachers' professional roles and functions in comparison to others.

Table 14

ANOVA analysis assessing the relationship between teachers' understanding of legislation and policies concerning individuals with special educational needs and/or disabilities and their attitudes towards including students with ASD

		Sum of	Mexic	Medium	F	Gis.
		squares	o City	Square		
Teachers' Views on Students Between groups		954.867	4	238.717	7.831	.000
with Mild to Moderate	Inside Groups	8382.505	275	30.482		
Disabilities	Total	9337.371	279			
Beliefs regarding the	Between groups	737.465	4	184.366	9.415	.000
effectiveness of inclusion	Inside Groups	5384.878	275	19.581		
	Total	6122.343	279			
Views on professional roles and	Between groups	794.464	4	198.616	14.318	.000
functions	Inside Groups	3814.736	275	13.872		
	Total	4609.200	279			

### 7.4 Correlations

illustrates a moderately negative correlation between beliefs regarding the effectiveness of integration and perspectives on professional roles and functions (r = -0.409, p<5%). As beliefs concerning the effectiveness of integration increase, the degree of perspectives regarding professional roles and functions decreases.

Table 15 demonstrates several relationships: first, a moderately negative correlation between teachers' perspectives on students with mild to moderate disabilities and their viewpoints about the effectiveness of integration (r = -0.481, p<5%). As teachers' perspectives on students with mild to moderate disabilities increase, their viewpoints about the effectiveness of integration diminish. Second, a moderately positive correlation between teachers' perspectives on students with mild to moderate disabilities and their perspectives on professional roles and functions (r = 0.474, p<5%).

As teachers' perceptions of students with mild to moderate disabilities increase, so do their perceptions about professional roles and functions. Finally, illustrates a moderately negative correlation between beliefs regarding the effectiveness of integration and perspectives on professional roles and functions (r = -0.409, p<5%). As beliefs concerning the effectiveness of integration increase, the degree of perspectives regarding professional roles and functions decreases.

**Table 15** illustrates a moderately negative correlation between beliefs regarding the effectiveness of integration and perspectives on professional roles and functions (r = -0.409, p<5%). As beliefs concerning the effectiveness of integration increase, the degree of perspectives regarding professional roles and functions decreases.

**Table 15**Pearson's Correlation Tests

		Teachers' views on	Beliefs regarding	Views on
		Students with Mild to	the effectiveness	professional roles
		<b>Moderate Disabilities</b>	of inclusion	and functions
Teachers' Perceptions of	Pearson's	1	-,481**	,474**
Students with Mild to	correlation			
Moderate Disabilities	Sig. (2 tails)		,000	,000
	N	280	280	280
Beliefs about the	Pearson's	-,481**	1	-,409**
efficacy of inclusion	correlation			
	Sig. (2 tails)	,000		,000
	N	280	280	280
	Pearson's	,474**	-,409**	1
	correlation			

Perceptions	of	Sig. (2 tails)	,000	,000	
professional roles	and	N	280	280	280
functions					

<sup>\*\*.</sup> The correlation is significant at the level of 0.01 (2 tails).

# **Chapter 8: Discussion**

# 8.1 Teachers' Perceptions and Attitudes towards Students with ASD

The perceptions and attitudes of teachers on students with Autism Spectrum Disorder (ASD) greatly influence the dynamics of implementing inclusive education. The findings of the current study proffer such a nuanced view about this aspect which actually reflects and at times diverges from the various views propounded by the established scholarly views. In this manner, they establish the fundamental groundwork for examining educators' attitudes towards inclusion, as laid out by the seminal work of Cullen et al. (2010). This framework, subsequently utilized in their research by Ediyanto et al. (2021) and Maulida et al. (2020), consequently serves as a comparative framework for evaluating the perspectives offered by our study. These were findings that reinforced the argument that teachers' perceptions are significantly biased by knowledge and exposure to ASD, resonating sentiments expressed by Peeters (1997) and Bάρβογλη (2007) whom emphasised the necessity of teacher training fine-tuned for children with special needs such as ASD.

The study emphasizes general attitudes ranging from empathetic understanding towards apprehension of integrating students with ASD into mainstream classrooms. It resonates with the literature which avers that teachers' attitudes are not characterized with monolithic identification but rather a confluence of factors which include personal belief, professional experience as well level of support available to them (Hsiao, 2022;

Kossyvaki, 2021). The complexity of the issue is underlined by the range of teachers' attitudes as are attitudes in the broader European context (Lindblom et al., 2020). Teachers with a positive attitude and have deeper knowledge of ASD, as attested by the research, are likely than not to employ inclusive strategies but such finding parallels the principles discussed by Bάρβογλη (2007).

Notably, the study identifies a gap to the conceptual ideological support to wider inclusion and its practical application echoing the noted challenges of practice within the Greek educational system by Giannoulis et al. (2021). This gap is contributed by a myriad of factors that include limited resources, inadequate training as well as the prevailing socio-economic conditions which have constituted a considerable barrier to an effective implementation of inclusive practices. Further insight of the study brings out how teachers' attitudes are also framed by a wider socio-cultural milieu, mirroring Leonard and Smyth's (2022) findings for an Irish context. A critical area that needs to be further explored in today's diverse educational settings is the influence of the teacher's attitudes by socio-cultural factors.

It also illustrates how important it is for specialized training to shape the perceptions of teachers. Furthering the claims forwarded by Peeters (1997) about the impacts of focused trainings over the preparedness of such teachers as well, it is believed that the teachers who have been exposed to such training and trained for ASD-specific educational strategies exhibit a quite higher level of inclusivity attitude. This finding is important in a sense that it evidences the role of continued professional development and specialized training programs on ASD as being argued by Kossyvaki (2021) and others.

In conclusion, the results of the investigation into teacher's perceptions and attitudes regarding students with ASD reveal the multi-faceted character of the given phenomena in their application to various sections of society and multiple factors that act as the driving force. This lends credence to the notion that teacher attitudes are a central determinant of success for inclusive education, hence following closely with Cullen et al. (2010). Insights derived from the study therefore throw light on systemic changes like better training of teachers and resource mobilization that have to be brought about to narrow the gulf between theoretical support of inclusive education for students with ASD and its practical implementation.

### 8.2 Beliefs Regarding Efficacy of Inclusion

The concept postulated in this study was significantly explored to show that teachers' beliefs in relation to the efficacy of inclusion significantly affect the experiences of students with ASD in school. These nuanced, varied beliefs reflect an important part of the pedagogical landscape echoing complex which has been outlined in the literature. This chapter discusses such beliefs and critically evaluates how these correspond or differ with the prevalent academic discourse particularly about inclusive education for students of ASD.

According to the findings of this research, the beliefs of teachers about the efficacy of inclusion are influenced by factors such as conceptualization of ASD, past experiences in inclusive arrangements and available sources and support. This reflects the observation by Leonard and Smyth (2022) in Ireland that teachers' attitudes were significantly affected by their perception of resource availability. In Greece, as isolated by Kossyvaki (2021), the same case applies where the economic crisis and resultant budgetary constraints have barred the proper execution of inclusive practices even though the conceptual belief toward it is believed to exist. This disparity between belief

and practice is one theme that comes up in the literature time after time, pointing to the problems experienced in translating theory into sound classroom practice.

Moreover, this study's findings are in line with the proposition that positive efficacy beliefs about inclusive realization of classroom practices and greater willingness to teach students with ASD. This adheres to what Βάρβογλη (2007) and Peeters (1997) preached about the inclusive education principles in such that teaching approaches and its learning methodologies will be extremely flexible and amenable for whatever adjustment just to meet the distinctive educational and development requirement of ASD students. Further substantiating the importance of such adaptive teaching methods is the indication by Giannoulis et al. (2021) in their research that despite grown economic distresses, inclusive education implementation problems to teachers continue being difficult in practice, more so during grown economic distresses.

In addition, the study raises consideration of the impact of wider educational and socio-economic context upon teachers' beliefs in regard to inclusion. Results suggest that positive beliefs about the efficacy of inclusion will be strongest in settings where resources and support exist for supporting inclusive policies, and therefore teachers have been prepared and trained sufficiently. This is consistent with Lindblom et al.'s (2020) study, which shows that comprehensive European teacher education programs do indeed foster the value of positive attitudes for inclusion.

On the whole, this chapter illustrates the complex dynamic that exists in the manner through which teachers' beliefs concerning efficacy of inclusion and the plethora of influences on these beliefs mirror one another. The findings of this study then add on to the existing knowledge about what role does resource-availability, teacher training, and the larger socio-economic fabric play in shaping such beliefs. They

stress the need for systemic changes to be made in both education policy and practice in order to close the gap between the theoretical support for inclusive education and how the actual experience was, for students with ASD. This has been in line with the broader academic discourse that has continued to single out and firm the centrality of teacher beliefs in the successful implementation of inclusive education strategies.

#### 8.3 Core Professional Roles and Functions: Inclusive Education

Professional roles and undertakings of educators are highly influential in the complex dynamics within inclusive education especially with regard to the involvement of students with Autism Spectrum Disorder (ASD). With this understanding, thus, this subchapter investigates how findings from this study on these roles and functions align with established institutional academic perspectives as increased applicability of actions to deepen the understanding of inclusive education practices.

On the spectrum of inclusive education, teachers' roles are extended not only to conventional instruction tasks but also cove a lot of responsibilities which all are personalized in order to respond to particular requirements of students with ASD. This multifaceted role is underscored in the present study, epitomizing a landscape of teachers who attempt to balance these disparate challenges and expectations. This mirrors the sentiments of Avramidis et al. (2000) stressing the call for teachers to adapt and innovate as necessitated by the different needs of their students. The results are also consistent with the arguments posed by Hsiao (2022) and Kossyvaki (2021) which emphasise on the need to provide professional training and support for teachers to assume such expanded roles.

Further, the research brings out the essential role of collaboration between the special and general education teachers in ensuring that inclusive education works. It

takes collaboration to design and put into practice educational strategies that cater for the complexities that come with ASD. This is a cooperative framework supported by the work of Henderson et al. (2007) that lays more emphasis on how all educational professionals in the core promote a joint effort in order to enhance an inclusive environment. Moreover, the results confirm the idea that successful inclusive education can be reached only when it is based on the interaction school-family environment. Coffey and Obringer (2004) similarly highlighted the significance of this partnership, noting its beneficial impact on the inclusion of students with special needs into mainstream classrooms.

However, the study also brings to light some of the difficulties encountered by teachers in fulfilling their roles effectively. These challenges are lack of resources, inadequate training, and the pressure to adapt to a diverse classroom. Similarly, these findings are supported by those of Giannoulis et al. (2021) who ascertained that economic considerations were the practical barriers that impeded teachers in Greece to effectively implement inclusive practices. The findings of the study therefore recommend that a systematic approach be taken towards addressing the challenges in line with the broader discourse on the necessity of comprehensive support systems and resources for teachers in inclusive settings.

In brief, this subchapter puts together the findings and relevant existing literature of the study with a highlight on changing roles and functions of educators in inclusive education for students with ASD. This underlines the necessity for focused professional development, collaborative practices, and systemic support in increasing teachers' efficacy in these roles. Alignment of these findings with the academic discourse results in a critical need to take a holistic approach into preparing and

supporting educators so that the practices of inclusive education are successfully implemented.

## **Chapter 9: Conclusion**

### 9.1 Summary of results

The purpose of the aforementioned research was to explore teachers' views on the inclusion of students with Autism Spectrum Disorder (ASD). The survey involved 280 teachers, predominantly female, aged between 51 and 60 years, with an average of 20 years of teaching experience. Furthermore, the survey revealed that the majority of participants work in major urban areas like Athens or Thessaloniki, are general education teachers, and possess a master's degree. Additionally, the majority of teachers do not work in special schools, have classrooms with greater than 10 students diagnosed with special needs and/or disabilities, and have attended seminars aimed at supporting students with ASD-HFA. Moreover, the majority of teachers stated having particular experience working with or training students with ASD-HFA in regular schools, participating in seminars regarding the integration of students with special educational needs and/or disabilities, and possessing average understanding of legislation and policies related to individuals with special educational needs and/or disabilities.

With respect to teachers' perceptions of students with mild to moderate disabilities, a neutral opinion is observed from the participants that the majority or all individual classrooms dedicated solely to students with ASD-HFA should be removed and that students with ASD-HFA rarely need to be removed from the regular classrooms in order to meet their educational needs. Participants also agree that all students with ASD-HFA should be educated in mainstream classes with peers without disabilities to

the maximum extent achievable. In addition, teachers agree that students with ASD-HFA can be trained more effectively in mainstream classrooms rather than in special education classes. Finally, teachers agree that integration is a more effective model for educating students with ASD-HFA as it diminishes transition time, which refers to the time needed for moving from one setting to another (M = 3, S.D. = 1.19).

As for teachers' perspectives on the effectiveness of integration, teachers disagree that students with ASD-HFA should not be taught in regular classes with students without disabilities because it will take too much time away from the teacher. Teachers also refute the idea that they harbor uncertainties about the effectiveness of integrating students with ASD-HFA in regular classrooms because they often lack the academic skills necessary for success.

In terms of teachers' perceptions of professional roles and functions, teachers agree that they would be delighted to have the chance to teach in groups as an example for addressing the needs of students with ASD-HFA in mainstream classrooms. Teachers also strongly agree that all students benefit from group teaching. That is, the coupling of a general education teacher and a special education teacher in the same class. Teachers also strongly agree that the responsibility for educating students with ASD-HFA in mainstream classrooms should be divided between general and special education teachers. Finally, teachers strongly agree that they would be happy to have the chance to participate in an educational counselor model as a means of addressing the needs of students with ASD-HFA (Autism Spectrum Disorder - High Functioning Autism) in regular classrooms.

The research revealed that teachers aged between 31 and 40 exhibit greater views on professional roles and functions in comparison to those aged between 21 and 30. Similarly, teachers with 11 to 15 years of service display more positive attitudes

toward including students with ASD compared to their counterparts with 0 to 5 years, 16 to 20 years, and over 20 years of service. Furthermore, teachers with over 20 years of service were more inclined to agree that students with ASD experience more effective inclusion than those with 6 to 10 years of service, 11 to 15 years of service, and 16 to 20 years of service. Lastly, teachers with 0 to 5 years of service demonstrate lower views on professional roles and functions in comparison to their peers.

In addition, teachers working in large urban areas such as Athens and Thessaloniki exhibit a more favorable perception of students with mild to moderate disabilities in comparison to those teaching in rural areas. Additionally, teachers in large urban areas such as Athens and Thessaloniki demonstrate a more positive perception of teachers' professional roles and functions in comparison to their counterparts teaching in urban and rural regions.

Furthermore, general education teachers held more favorable perceptions of students with mild to moderate disabilities in comparison to their counterparts in special education. Likewise, general education teachers exhibited more positive perceptions of teachers' professional roles and functions in comparison to special education teachers. However, professors with bachelor's degrees tended to agree more strongly that students with ASD achieve more effective inclusion than those with master's degrees. Additionally, professors holding a PhD demonstrated a deeper understanding of professional roles and functions compared to those with a master's degree.

Additionally, teachers who are not employed in a special school tend to have a less favorable perception of students with mild to moderate disabilities in comparison to those who work in such schools. Furthermore, teachers who stated having more than 10 students diagnosed with ASD in their school were less inclined to agree that students with ASD experience more effective inclusion, in contrast to educators whose schools

have 4 to 5 students diagnosed with ASD or 6 to 10 students diagnosed with ASD. Similarly, educators who have not attented seminars focusing on the integration of students with special educational needs and/or disabilities tend to hold less favorable viewpoints about including students with ASD in comparison to those who have participated in such seminars. Teachers who had attended seminars on the integration of students with special educational needs and/or disabilities were less likely to agree that students with ASD achieve more effective integration compared to those who had not attended such seminars. Lastly, teachers who attented seminars on the inclusion of students with special educational needs and/or disabilities exhibit a better understanding of professional roles and functions compared to teachers who did not participate in such seminars.

Furthermore, teachers with limited understanding of legislation and policies concerning individuals with special educational needs and/or disabilities tend to hold a more positive attitude towards the integration of students with ASD compared to their counterparts. Conversely, teachers with limited understanding of legislation and policies regarding individuals with special educational needs and/or disabilities also tend to harbor more positive perceptions about the effectiveness of integrating students with ASD. Lastly, educators with limited knowledge about legislation and policies regarding individuals with special educational needs and/or disabilities tend to possess more positive perceptions of teachers' professional roles and functions in comparison to others.

In addition, as teachers' perceptions of students with mild to moderate disabilities increase, so do teachers' beliefs about the efficacy of inclusion. Finally, as teachers' perceptions of students with mild to moderate disabilities increase, so do their perceptions of professional roles and functions.

#### 9.2 Research limitations

While this study provides valuable insights into teachers' attitudes towards the inclusion of autistic students in Greece, it is important to note the following limitations of the research.

First, the study used selective sampling as a method of selecting participants. This was mainly due to the difficulty in conducting the survey and meeting the time constraints of the survey. Therefore, the sample may not be fully representative of all teachers in Greece. Selective sampling can introduce biases, as it does not give all members of the population the same selection possibilities. As a result, the results may not be generalized to all Greek teachers or to those in other countries (Creswell & Creswell, 2017).

Second, the research instrument used was a structured questionnaire with closed-ended questions. While this provides a standardized set of responses, it can limit the depth of understanding of teachers' attitudes. Open-ended questions could provide a richer, more nuanced understanding of teachers' feelings and thoughts on the topic. Relying on a Likert scale, while useful for quantifying attitudes, can sometimes oversimplify complex beliefs (Neuman, 2014).

In addition, the use of electronic means for data collection, while practical for selective sampling, may have introduced its own set of challenges. Teachers who are less comfortable or tech-savvy may have opted out or had difficulty completing the survey. This could lead to the inadvertent exclusion of a specific demographic of teachers from the study.

The timeline for completing the survey may also present a limitation. The 40-day deadline to return completed surveys may not have been enough for all potential

respondents, especially considering the myriad challenges teachers may face during their work hours. This may have affected the response rate and therefore the representativeness of the sample (Field, 2013).

In addition, while SPSS is a powerful tool for quantitative data analysis, its use depends on accurate data entry. Errors in coding or data entry can affect the validity of the results. In addition, while the statistical tests used, including correlation t-test, ANOVA, and Pearson, are appropriate for research questions, it is vital to remember that correlation does not imply causation. The relationships identified in the study may not necessarily indicate direct causal relationships. Finally, inherent in any measure of self-reference is the possibility of a social desire bias. Teachers may have answered the questions in a way that they believed was socially acceptable or aligned with professional expectations rather than their true feelings.

In conclusion, while this study offers important insights on the topic, it is important to interpret the results with an understanding of their limitations. Future research could consider a mixed-methods approach, combining quantitative and qualitative data collection techniques, to provide a more complete picture of teachers' attitudes towards the inclusion of autistic students (Neuman, 2014).

#### 9.3 Recommendations for future research

The recent study examining teachers' attitudes toward the integration of autistic students presents an insightful mosaic of findings that, while wide-ranging, inevitably highlights the need for deeper and more diverse explorations in the future.

It becomes evident that while the present study draws primarily on information from educators in wider urban settings, such as Athens and Thessaloniki, an important avenue for future research lies in broadening the geographical perspective. Increased involvement of teachers from remote and rural areas could reveal unique challenges and opportunities offered by these environments, enriching our understanding of inclusive education in different fields. In addition, while differences in perceptions have emerged between general education teachers and special education teachers, there remains a vast field of expertise unique to special education teachers who await deeper exploration. Their specific problems, their training needs and their views on integration could be the subject of further in-depth study.

Professional development emerged as an important factor in shaping teachers' prospects for integration. Future research could delve into the longitudinal effects of regular training on teachers' competencies and attitudes, assessing the sustainability and depth of these impacts. Moreover, while perceptions lay the groundwork, understanding the tangible translation of these beliefs into classroom practices remains crucial. Future studies could use observational methods to extract insights into teaching methods, strategies for peer inclusion, and effective classroom management adapted to inclusive environments.

From a student-centered perspective, understanding the academic, emotional, and social outcomes of autistic students in inclusive settings will provide a well-rounded perspective on the real benefits and challenges of inclusion. This would also help bridge the gap between teachers' attitudes and students' tangible experiences. In addition, the correlation between teachers' knowledge of legislation and policies and their attitudes highlights another interesting dimension. A specific exploration of how increased policy awareness could improve inclusive practices and which specific policies have the greatest impact may be critical.

Undoubtedly, school leadership plays a central role in shaping the culture and practices of educational institutions. An exploration of the attitudes, beliefs, and

strategies adopted by school leaders, compared to the antecedents of teachers' attitudes, could reveal top-down strategies that promote inclusion. There is also an undeniable value in looking beyond geographical boundaries. As inclusive practices gain momentum around the world, cross-cultural studies can offer a new perspective, revealing cultural nuances that significantly influence teachers' attitudes and practices.

Longitudinal approaches to studying the evolution of attitudes and practices in the context of evolving social norms, policies, and developments in ASD research could be particularly illuminating. Capturing changes and trends over time will provide a dynamic snapshot of the educational field. In addition, while the teacher-student dynamic remains central, collaboration and dynamics between teachers and parents of autistic students is ripe for exploration. Delving into their communication patterns, mutual perceptions, and challenges could significantly enrich the debate around inclusive education.

In conclusion, the issue of teachers' attitudes towards inclusive education, while significantly explored in this study, presents many areas that have not yet been studied. However, future research informed by the findings of this study promises richer insights, sophisticated strategies, and a better understanding of inclusive practices in a variety of contexts.

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## **Appendix**

## **Questionnaire**

Dear colleagues,

this research is being conducted for the needs of my doctoral thesis on "Teachers' attitudes towards the inclusion of autistic students and the factors that shape them".

The purpose of the research is to study the experience, knowledge, attitudes and practices of general and special education teachers of primary education regarding the inclusion of students with Autism Spectrum Disorder in the general classroom. It is clarified that the term Autism Spectrum Disorder (ASD) includes students who belong to the entire spectrum of autism. Inclusion for the purpose of this research implies the participation and education of students with ASD in the general classroom with or without parallel teaching by a special educator.

The questionnaire is anonymous. Responses are confidential and will be used for research purposes only. It takes about 10 minutes to complete. It is important that you answer all questions. Returning a completed questionnaire indicates your consent to participate in this survey.

Thank you in advance for your participation in the survey and your valuable assistance.

Note: ASD-H.F.A.: With the specific terms students with Autism Spectrum Disorder (ASD) and High Functioning Autism (HFA.) are included, it includes all the autism spectrum, not just H.F.A..

## SECTION A - DEMOGRAPHIC AND SERVICE DETAILS

	1. Sex
0	Male Female
	2. Age
0	21 - 30
	31 - 40 $41 - 50$
	51 - 60
0	61 and above
	3. Years of service
0	0-5 years
	6 – 10 years
	11 – 15 years
0	16 – 20 years over 20 years
_	
educat	4. Check the answer that best describes the area in which you serve as an or this year
0	Large Urban Centers (Athens – Thessaloniki)
0	Urban area (>10.000)
0	Semi-urban area (2.000-10.000) Rural area (<2.000)
0	Rufai area (~2.000)
	5. Speciality
0	General education teacher
0	Special education teacher
	6. Education level
0	Bachelor of Science (BSc)
0	Master of Science (MSc)
0	Doctor of Philosophy (PhD)
	7. Do you work in a special school?
0	Yes
0	No

- 8. If you work in a school this year, note how many diagnosed students with special educational needs and/or disabilities attend your school
  - o 0 students
  - $\circ$  1 3 students
  - $\circ$  4 5 students
  - $\circ$  6 10 students
  - o More than 10 students
- 9. Have you received special education or training to support students with ASD-HFA (Autistic Spectrum Disorders High Functioning Autism)?

(More than one answer)

- o Undergraduate education
- o Postgraduate education
- o Doctoral education
- Over 400 hours of training
- o Seminar
- o No
- 10. Do you have specific experience working with or educating students with ASD-HFA (Autistic Spectrum Disorders High Functioning Autism)?

(More than one answer)

- O Yes. In a general school, class teacher
- O Yes. In a general school, Parallel support
- O Yes. In a special school
- o Yes. In Diagnostic Assessment Counseling and Support Centers
- o No
- 11. Have you participated in seminars on inclusion of students with special educational needs and/or disabilities?
  - o Yes
  - o No
- 12. My knowledge of legislation and policies relating to people with special educational needs and/or disabilities is
  - o None
  - Very small
  - o Moderate
  - o Good
  - o Very good

## **SECTION B - SCALE "Teacher Attitudes Toward Inclusion Scale" (TATIS)**

<u>Instructions</u>: The purpose of this confidential survey is to obtain an accurate and valid assessment of your attitudes towards the inclusion of students with ASD in the general classroom. It contains questions about your beliefs about professional roles, perceptions about collectivity, and beliefs about the effectiveness of inclusion (i.e., whether inclusion can succeed or not). There are no "right" or "wrong" answers, so please answer honestly.

<u>Inclusion</u>: For the purposes of this research, it is defined as the inclusion of students with ASD in general classes for part or all of the school day.

ASD-H.F.A.: With the specific terms students with Autism Spectrum Disorder (ASD) and High Functioning Autism (H.F.A.) are included, it includes all the autism spectrum, not just H.F.A..

Use the following scale for all items:

1=Agree Very Strongly (AVS), 2-Strongly Agree (SA), 3=Agree (A), 4=Neither Agree nor Disagree (NAD), 5=Disagree (D), 6=Strongly Disagree (SD), 7=Disagree Very Strongly (DVS)

1. All students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism) should be educated in regular classrooms with non-handicapped peers to the fullest extent possible.

1 2 3 4 5 6 7

2. It is seldom necessary to remove students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism) from regular classrooms in order to meet their educational needs.

1 2 3 4 5 6 7

3. Most or all separate classrooms that exclusively serve students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism) should be eliminated.

1 2 3 4 5 6 7

4. Most or all regular classrooms can be modified to meet the needs of students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism).

1 2 3 4 5 6 7

5. Students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism) can be more effectively educated in regular classrooms as opposed to special education classrooms.

1 2 3 4 5 6 7

6. Inclusion is a more efficient model for educating students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism) because it reduces transition time (i.e., the time required to move from one setting to another).

1 2 3 4 5 6 7

7. Students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism) should not be taught in regular classes with non-disabled students because they will require too much of the teacher's time.

1 2 3 4 5 6 7

8. I have doubts about the effectiveness of including students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism) in regular classrooms because they often lack the academic skills necessary for success.

1 2 3 4 5 6 7

9. I have doubts about the effectiveness of including students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism) in regular classrooms because they often lack the social skills necessary for success.

1 2 3 4 5 6 7

10. I find that general education teachers often do not succeed with students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism), even when they try their best.

1 2 3 4 5 6 7

11. I would welcome the opportunity to team teach as a model for meeting the needs of students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism) in regular classrooms.

1 2 3 4 5 6 7

12. All students benefit from team teaching; that is, the pairing of a general and a special education teacher in the same classroom.

1 2 3 4 5 6 7

13. The responsibility for educating students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism) in regular classrooms should be shared between general and special education teachers.

1 2 3 4 5 6 7

14. I would welcome the opportunity to participate in a consultant teacher model (i.e., regular collaborative meetings between special and general education teachers to share ideas, methods, and materials) as a means of addressing the needs of students with ASD-HFA (Autistic Spectrum Disorders – High Functioning Autism) in regular classrooms.

1 2 3 4 5 6 7