Research Article

Integrating Outcome-Based Education into Cinematography: Strategies for Effective Implementation

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ARTICLE INFO	ABSTRACT
	The domain of cinematography pedagogy surpasses technical camera skills, delving into visual storytelling's creative essence. This study aims to explore methodologies facilitating effective implementation of outcome-based education (OBE) within China's educational system. Adhering to PRISMA guidelines, this research conducted a comprehensive narrative literature review, analyzing 135 relevant articles. The study focuses on identifying barriers impeding the successful integration of OBE in cinematography education. The findings highlighted that obstacles hindering OBE integration include inadequate educator and curriculum developer preparedness, limited resources, and challenges stemming from cultural and linguistic diversity. Successful OBE applications highlight the need for tailored strategies in the curriculum, emphasizing student-centered teaching and continual teacher training. Aligning cinematography education with industry standards and employing student-focused teaching methods fosters the development of proficient professionals. This study underscores the pivotal role of strategic curriculum practices in cinematography education's theoretical and practical realms within China. In contributing to the literature on OBE in cinematography, this study emphasizes strategic approaches' significance, illuminating successful applications in the Chinese educational context. **Keywords:** Outcome-based Education, Cinematography, Implementation Strategies, Chinese Education System, Learning Outcomes

INTRODUCTION

Cinematography is a visual storytelling art form that blends technology, creativity, and storytelling (Rodríguez, García-Jiménez, Massó-Guijarro, & Cruz-González, 2021). It is frequently utilized in a variety of industries including film, television, advertising, and digital media (Buckingham, 2020). The Chinese film business has grown rapidly in recent years, and it is critical to increase the quality of cinematography education to satisfy the industry's expectations (Yaqoub, Jingwu, & Ambekar, 2023). Incorporating outcome-based education into cinematography can be an effective way to alleviate this problem (Q. Li, Z. Li, & Han, 2021).

In the intricate tapestry of educational paradigms, the realm of cinematography pedagogy emerges as an artistry woven with the threads of technical finesse and narrative prowess (Pradhan, 2021). Within the Chinese educational landscape, this scholarly expedition embarks on an odyssey, seeking to navigate the labyrinthine corridors of outcome-based education (OBE) and its symbiotic relationship with cinematography instruction. Rooted in a quest to uncover the essence of effective implementation, this inquiry scrutinizes the multifaceted components and intricate strategies underpinning the assimilation of OBE principles within the dynamic realm of visual storytelling (X. Zhang et al., 2021). As the lens zooms in on this scholarly narrative, it unveils the contours of a canvas embellished with the challenges, nuances, and aspirations of integrating pedagogical innovation, wherein educators and institutions serve as custodians shaping the educational horizon (Christy & Sidhu, 2022).

The purpose of this study is to look into the ways for effective implementation of outcome-based education in cinematography in Chinese Higher Education Institutions (HEIs). This study seeks to address a research vacuum by investigating the problems and obstacles to adopting outcome-based education in cinematography in Chinese HEIs and suggesting ways to overcome these obstacles.

The lack of a uniform curriculum, poor educator training, and a lack of specific learning outcomes for students are among the challenges and barriers to adopting outcome-based education in cinematography in the HEIs in China (Sarfraz, Mansoor, & Tariq, 2023). It is difficult for educators to construct effective outcome-based education programs in the absence of a uniform curriculum (Almuhaideb & Saeed, 2020). Inadequate educator training keeps them from grasping the notion of outcome-based education and implementing effective learning activities to attain the intended learning outcomes (X. Zhang et al., 2021) as it is hard for the students to apply their educational knowledge in reality, as they cannot draw a line about what outcomes to expect in real life situation (Chuyun Hu, 2020).

Hence there is a need for; developing tools that could measure the outcomes of OBE, in combination with the alignment of technological learning with real-life projects and a standardized curriculum, that would thoroughly train all educators in this regard (Lewis, 2021). Creating a standardized curriculum gives educators a clear framework for constructing outcome-based education programs (Pradhan, 2021). Educators might benefit from training in order to better comprehend the concept of outcome-based education and construct successful learning activities to attain the targeted learning outcomes (Christy & Sidhu, 2022).

Developing clear and measurable learning goals can assist students in understanding what they are expected to learn and how to apply their knowledge in real-life circumstances (Hang & Van, 2020). Students can benefit from engaging and interactive learning activities when technology is used to enhance the learning experience (Rapanta, Botturi, Goodyear, Guàrdia, & Koole, 2020). Real-world projects can help students apply their knowledge and abilities in real-life settings, increasing their overall learning results (H.-W. Huang, 2021).

Future research could look into the influence of applying outcome-based education in cinematography on student learning outcomes as well as the industry's demand for qualified personnel (H. Li, 2021). Furthermore, future studies can look into the effects of outcome-based education on the teaching process as well as the efficacy of various teaching approaches in outcome-based education (Asim, Vaz, Ahmed, & Sadiq, 2021).

Table 1. Aims and Objectives of the Research

Objective
1. To investigate the approach of outcome-based education in cinematography.
2. To identify the obstacles to incorporating outcome-based education in cinematography into the Chinese HEIs.
3. To explore strategies for the successful implementation of outcome-based education in cinematography in the Chinese HEIs.
4. To suggest future research directions for outcome-based cinematography education.

This study is significant because it has the potential to provide educators and policymakers with viable techniques for adopting outcome-based education in cinematography in Chinese HEIs (Table 1 & Table 2). This research can help to improve the quality of cinematography education and the development of qualified people in the film industry, thereby helping the growth and development of the Chinese film industry.

Table 2. Research Questions

Research Questions
1. What exactly is outcome-based education in cinematography?
2. What are the difficulties in incorporating outcome-based education in cinematography into the Chinese HEIs?
3. What are the most effective strategies for implementing outcome-based cinematography education in Chinese HEIs?
4. What are the future research directions for cinematography outcome-based education?

LITERATURE REVIEW

Theoretical Background

In recent years, the Chinese HEIs have experienced considerable reforms, with a particular emphasis on enhancing educational quality and student results. Outcome-Based Education (OBE) is one strategy that has gained acceptance in China and many other nations (Tang, 2021). OBE is a student-centered educational strategy that focuses on establishing and measuring particular learning outcomes for pupils (Brouwer, Jansen, Severiens,

& Meeuwisse, 2019). OBE attempts to improve educational quality and student results by establishing defined learning objectives and aligning instruction and assessment with these objectives (Ruge, Tokede, & Tivendale, 2019).

Cinematography is a rising field in China, notably in film and television production (Zhao, 2020). According to recent research conducted by Fan and Zhang (2021), the profession in question has received support from the government through investments in infrastructure and resources. Additionally, the government has recognized the industry as a key contributor to economic growth and has actively promoted its development. The implementation of Outcome-Based Education (OBE) in the field of cinematography education has not been extensively studied, as per the research conducted by Mangali, Biscocho, Salagubang, Patricia and Castillo (2019).

According to recent research conducted by Q. Li et al. (2021), the integration of Outcome-Based Education (OBE) in cinematography education within Chinese HEIs may offer several potential advantages. According to Komalasari et al. (2020), one potential benefit of educational standards is the potential to improve the quality of education by promoting the attainment of specific learning objectives by students. The acquisition of skills and knowledge in film and television can lead to enhanced readiness for careers in these fields, as well as a more robust foundation for pursuing advanced education in related disciplines (Nicolaou, Matsiola, & Kalliris, 2019).

Second, incorporating OBE into cinematography education can enable educators with new techniques for more successful and engaging instruction (Thomas, 2020). Educators can better personalize their teaching to the requirements of individual students by concentrating on learning outcomes and connecting instruction and evaluation with these outcomes (Choe et al., 2019). This can increase student engagement and motivation, resulting in improved learning results (Mali & Lim, 2021).

Finally, incorporating OBE within cinematography education can help to advance the broader area of OBE in China (Y. Zhang, 2022). While OBE has been used in other subjects such as science and mathematics, its application in vocational and creative fields is still in its early stages (Bakker, Cai, & Zenger, 2021). This research can provide insights for educators and policymakers interested in establishing OBE in other vocational and artistic disciplines by investigating options for incorporating OBE into cinematography education (Henriksen et al., 2021).

Effective OBE implementation necessitates a thorough understanding of the underlying principles and tactics (Akramy, 2021). Curriculum and instructional design, as well as assessment and evaluation, are key components of OBE implementation (Asim et al., 2021). Furthermore, professional development for educators is required to ensure that they have the requisite skills and expertise to use OBE effectively in the classroom (Kim, Raza, & Seidman, 2019).

In conclusion, incorporating OBE into cinematography education in Chinese HEIs has the potential to increase educational quality, improve student outcomes, give novel teaching methodologies, and contribute to the growth of the broader area of OBE in China (Xue, Li, & Xu, 2022). This study intends to investigate effective implementation tactics and provide insights for educators and policymakers interested in introducing OBE in the classroom.

METHODOLOGY

This study adopted a conventional literature review approach, aimed at meticulously examining pertinent literature concerning the amalgamation of outcome-based education with cinematography within Chinese Higher Education Institutions (Soliman & Shaker, 2022). The review process sought to unearth the current landscape of research pertaining to this subject while scrutinizing existing strategies for effective implementation, obstacles demanding resolution, and variables shaping the field's future trajectory (Suartana et al., 2021).

To comprehensively gather relevant literature, an exhaustive search was conducted across diverse academic databases, including JSTOR, ProQuest, Emerald, Taylor and Francis, Elsevier, and Google Scholar (refer to Appendix 1). The search employed a set of targeted keywords (Table 3) such as "outcome-based education," "cinematography," "Chinese HEIs," "strategies," and "implementation." This meticulous search initially yielded 310 publications, which underwent stringent selection criteria based on relevance to the research objectives and aims.

Table 3. Search Keywords Combination

Keyword Combinations
● cinematography, film education, outcome-based education
● cinematography, learning outcomes, implementation strategies
● education, China, cinematography, outcome-based education
● cinematography, teaching strategies, learning outcomes
● film education, Chinese higher education institutions, outcome-based education

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was used for the screening of data as mentioned in Table 4. PRISMA is often preferred as it offers a careful selection and evaluation of the literature hence, delivering high-quality research (Agustian et al., 2022). The PRISMA methodology (Figure 1) entails a four-step process of identifying, screening, qualifying, and including relevant publications (Tumpa, Skaik, Ham, & Chaudhry, 2022).

Table 4. PRISMA Screening

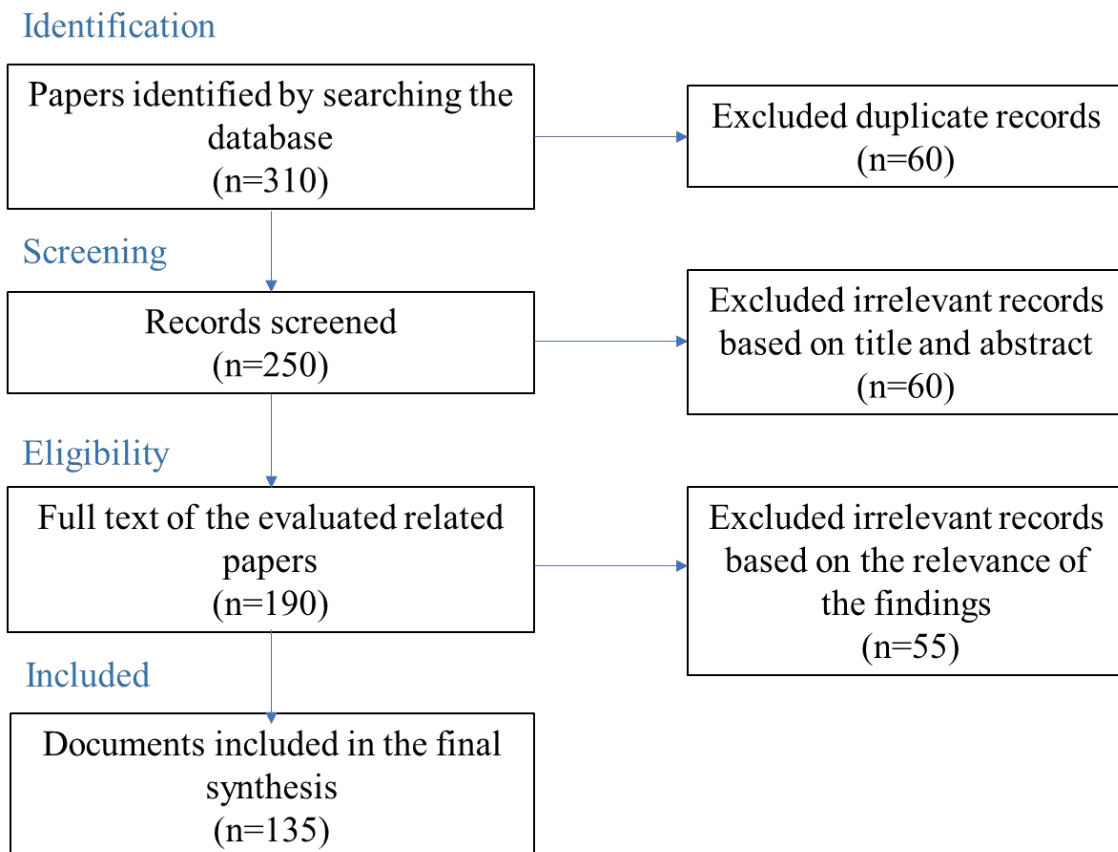| Stage	No. of Articles
Initial search results	310
Screening of titles and abstracts	250
Full-text screening	190
Final articles selected	135

Figure 1. PRISMA Screening

310 publications were identified from various academic databases during the identification phase. Duplicates were deleted during the screening phase, and the titles and abstracts of the publications were screened based on the inclusion and exclusion criteria. The full-text publications were reviewed for their relevance to the study question and objectives during the eligibility phase. Finally, 135 papers were included in the review during the inclusion phase.
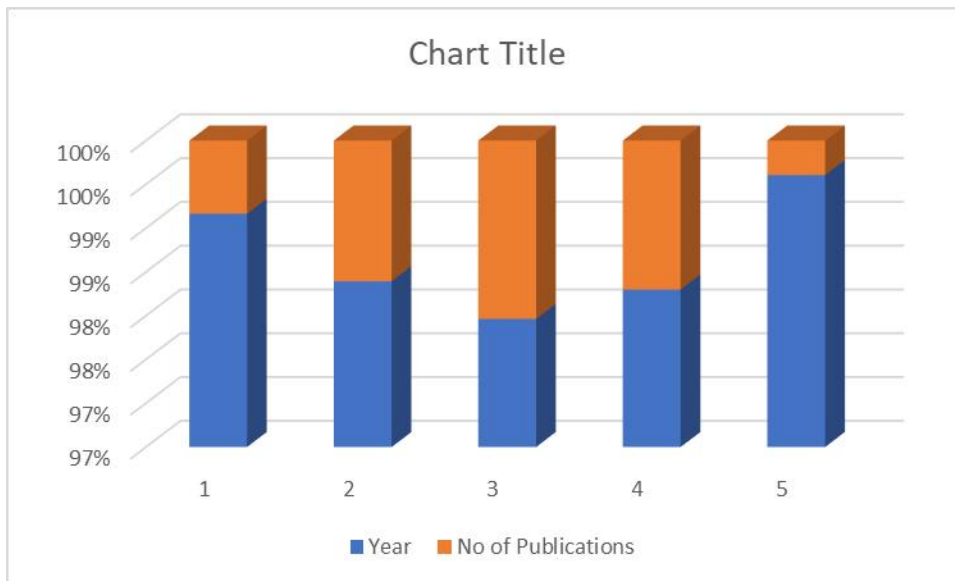
Figure 2. No of Relevant Publications

Articles that discussed the integration of outcome-based education into cinematography in the HEIs in China, the strategies for effective implementation, the challenges and obstacles in its implementation, and the variables that can shape the field's future were eligible for inclusion in this review. Articles that were not related to the study question, were not published in peer-reviewed journals, were not available in English, and were published before 2019 were excluded (Figure 2).
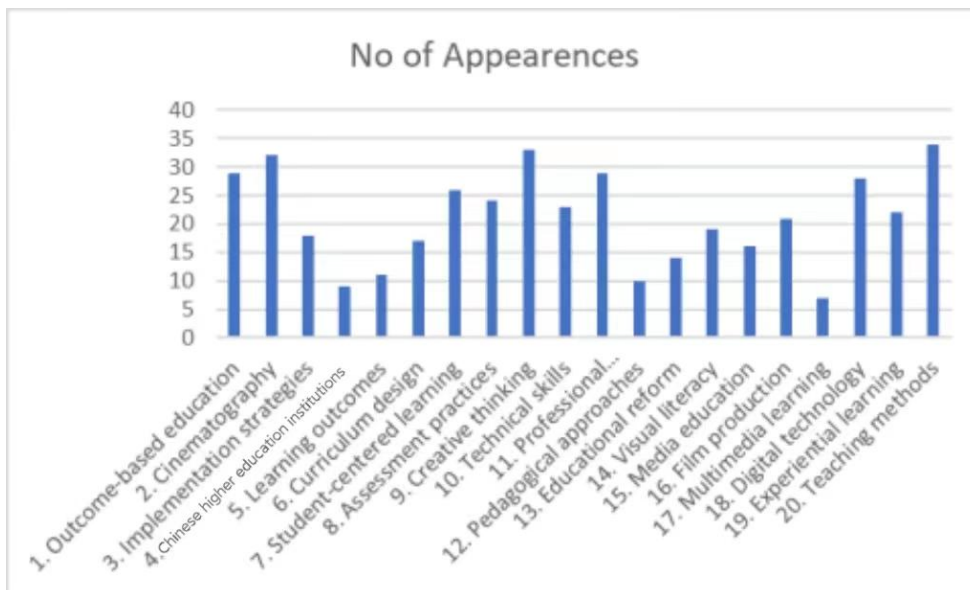

Figure 3. Themes Selection

Finally, this study employed a standard literature review methodology, which entailed searching and critically analyzing relevant literature on the topic of integrating outcome-based education with cinematography in the Chinese HEIs (Figure 3 & Figure 4). For the identification, screening, eligibility, and inclusion of relevant publications, the PRISMA methodology was employed. The study question and aims guided the inclusion and exclusion criteria.
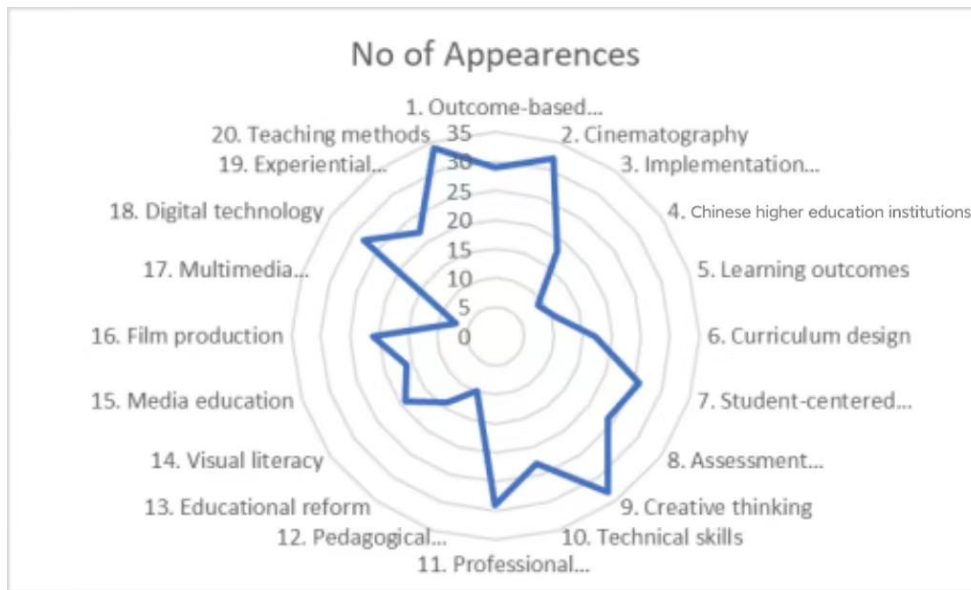
Figure 4. Themes Relations Appearances

RESULTS

Hindrances in the implementation of Outcome-Based Education in Cinematography Education

Implementing Outcome-Based Education in cinematography education in China might be a difficult procedure. Despite the potential benefits, there are a number of difficulties and roadblocks that could prevent its effective implementation (Kashinath & Raju, 2023). We will examine 10 mostly cited challenges and obstacles that can arise during the application of OBE in cinematography education in this literature study.

1. Inadequate Understanding of OBE Principles

One of the most significant barriers to integrating Outcome-Based school (OBE) in cinematographer school is a lack of knowledge of OBE principles (Solikhah, 2022). OBE is a student-centered educational method that focuses on identifying particular learning outcomes and planning curriculum and evaluations to meet those outcomes (Japee & Oza, 2021). Educators and administrators may be unaware of the benefits of OBE or how to effectively implement it (Nguyen & Pham, 2019). Confusion, resistance, and inefficient implementation might result from a lack of understanding (Yuan, Li, & Zhang, 2023).

2. Change Resistance

OBE implementation necessitates substantial adjustments to the curriculum, instructional techniques, and assessment processes (X. Zhang et al., 2021). This can lead to opposition to change among educators, administrators, and other stakeholders who prefer traditional educational techniques (Czerniewicz, Trotter, & Haupt, 2019). Change resistance can take many forms, including doubt, hesitancy, and open antagonism (He & Wei, 2021). Educators and administrators must collaborate to combat this opposition and properly promote the benefits of OBE (Halabieh et al., 2022).

3. Difficulty Defining Learning Objectives

It can be difficult to define particular learning outcomes that are relevant to the discipline of cinematography (Westwell & Ingle, 2020). It necessitates a thorough knowledge of the sector as well as the ability to identify specific skills and knowledge that students must gain (Mian, Salah, Ameen, Moiduddin, & Alkhalefah, 2020). Learning outcomes must be measurable and attainable, as well as in line with industry norms and expectations (Migliorelli, 2021). It can be difficult to create successful training and evaluations without defined and specified learning outcomes (Hamilton, McKechnie, Edgerton, & Wilson, 2021).

4. Difficulty of Curriculum Development

Creating a curriculum that adheres to OBE principles can be difficult and time-consuming (Zheng, Wen, Lian, & Nie, 2023). Educators must ensure that the curriculum is well-structured, industry-relevant, and aimed towards specified learning outcomes (Miah, Solomonides, & Gammack, 2020). The curriculum must also be adaptable enough to meet the requirements and interests of individual students (Paulsrud & Nilholm, 2020). This necessitates meticulous preparation, coordination, and continuous assessment and evaluation (Q. Zhang, 2022).

5. Scarcity of Resources

Adequate resources, including time, funding, and materials, are required for efficient OBE implementation (Arun Kumar, 2022). Educators may struggle to build successful courses, design suitable evaluations, and give the required support to pupils without these resources (Frerejean et al., 2019). Adequate resources are also required for the program's continuing assessment and evaluation (Madani, 2019).

6. Aligning Instruction and Assessment with Learning Outcomes is Difficult

Aligning training and evaluation with specific learning outcomes can be difficult, especially in a creative area like cinematography (D'Cruz, 2021). Educators must create exams that effectively measure student performance of specified learning outcomes while also allowing for creative and innovative thinking (Ozkan & Umdu Topsakal, 2021). They must also design effective instructional approaches to promote the achievement of these learning outcomes (Castro & Tumibay, 2021).

7. Scarcity of Opportunities for Professional Development

Effective OBE implementation necessitates a high level of knowledge from instructors (Agus, 2022). However, many instructors may not have had the requisite training or professional development opportunities to effectively adopt OBE (Kennedy & Laurillard, 2019). Educators may struggle to construct effective curricula, assessments, and instruction that accord with OBE principles without continual training and assistance (Akramy, 2021).

8. Students' Opposition

Students who are acclimated to more traditional educational methodologies may be resistant to OBE (Neuwirth, Jović, & Mukherji, 2021). They may struggle to adjust to new instructional methods or assessments that emphasize specific learning outcomes (Haug & Mork, 2021). It is critical to properly communicate the benefits of OBE to students and to involve them in the program's conception and implementation (Lenin, Siva Kumar, & Selvakumar, 2023).

9. Measuring Learning Outcomes is Difficult

Measuring specific learning outcomes can be difficult, especially in a creative field like cinematography (Walsh & Cordero, 2019). Educators must provide effective assessment systems that accurately assess students' attainment of specific learning outcomes (Bernacki, Chavez, & Uesbeck, 2020). These evaluations must be valid, dependable, and in accordance with industry standards and expectations (Nurtanto, Sofyan, Pardjono, & Suyitno, 2020).

10. Administration's Indifference

Effective implementation of OBE necessitates significant administration support (Almuhaideb & Saeed, 2020). Educators may struggle to develop and implement successful curricula, assessments, and instructional approaches without this assistance (Billingsley, Bettini, & Jones, 2019). Administration must be dedicated to OBE principles and offer the resources, training, and support needed for its successful implementation (Naveed Bin Rais et al., 2021). In conclusion, the implementation of OBE in cinematography education in the Chinese HEIs may be hampered by a lack of understanding of OBE principles, resistance to change, difficulty in defining learning outcomes, complexity of curriculum development, a lack of resources, difficulty in aligning instruction and assessment with learning outcomes, a lack of professional development opportunities, student resistance, difficulty in measuring learning outcomes, and a lack of resources.

Strategies for Effective Implementation

1. Providing Opportunities for Professional Development

The importance of professional development opportunities in the acquisition of knowledge and skills cannot be overstated in the educational landscape. The acquisition of knowledge and skills in Outcome-Based Education (OBE) is crucial for educators to enhance their understanding of best practices and fundamental principles (Pradhan, 2021). As such, educators require ample opportunities to gain insights into OBE. The synchronization of curricular content with industry benchmarks is a pivotal facet of education, particularly in the domain of cinematography. The present study posits that the potential dearth of experience among educators could potentially hinder their capacity to design curricula that align with the requisites of the industry (Wall-Andrews, 2022). Professional development can assist educators in overcoming this barrier by providing them with the essential skills and information to create effective curricula, assessments, and teaching approaches that are aligned with OBE principles (Dapat, Alda, & Bacus, 2023).

2. Collaboration with Industry Experts

Collaborating with industry specialists can provide useful insights into the industry's expectations and norms

(Azman et al., 2019). In cinematography, for example, industry practitioners might provide comments on the types of skills and knowledge that students will need to succeed in the business (Murzyn-Kupisz & Hołuj, 2021). Educators can overcome the barrier of not having the appropriate expertise to build effective curricula by working collaboratively with industry professionals to design curricula and assessments that are consistent with industry standards and expectations (Balgopal, 2020).

3. Students' Involvement in the Process

Involving students in the program's development and implementation can assist in establishing buy-in and support for OBE (Kang et al., 2022). Students who are involved and invested in the program are more likely to be motivated to learn and attain the essential learning outcomes (Filgona, Sakiyo, Gwany, & Okoronka, 2020). Involving students in the process can also assist educators in identifying areas of difficulty and adjusting their instructional techniques accordingly (Hawari & Noor, 2020). Educators can overcome the barrier of student disengagement and lack of desire by including students in the process(Puspitarini & Hanif, 2019).

4. Creating Specific and Measurable Learning Outcomes

Creating defined and measurable learning outcomes is critical for the successful implementation of OBE (Rao, 2020). In the film industry, educators may confront the challenge of not having clear rules on what precise skills and information students need to gain in order to be successful (Nartiningrum & Nugroho, 2020). Educators can identify particular learning outcomes that are relevant, quantifiable, and achievable by collaborating with industry leaders (Laufer et al., 2021). Uncertainty and a lack of direction can be solved through clear and measurable learning outcomes (Tomasik, Helbling, & Moser, 2021).

5. Making Effective Assessments

Effective assessment design is essential for measuring student performance of specific learning outcomes (Ibáñez, Portillo, Cabada, & Barrón, 2020). Educators may face the challenge of lacking the expertise needed to provide tests that are valid, trustworthy, and consistent with industry norms and expectations (Jabarullah & Iqbal Hussain, 2019). Educators can construct exams that effectively measure student accomplishment of specified learning outcomes by working cooperatively with industry leaders (Barnett, 2020). Effective assessments can assist educators in overcoming the barrier of a lack of competence in designing valid and reliable tests (Joshi, Vinay, & Bhaskar, 2021).

6. Creating a Flexible Curriculum

Creating a flexible curriculum that can meet students' specific requirements and interests is critical for the successful implementation of OBE (Dapat et al., 2023). Educators in cinematography may face the challenge of pupils with varying degrees of experience and enthusiasm in the profession (Q. Li et al., 2021). Educators can overcome the challenge of addressing the demands of students with varying levels of skill and interest by establishing a flexible curriculum that allows for creativity and innovation while yet ensuring that certain learning outcomes are met (Pittman, Severino, DeCarlo-Tecce, & Kiosoglous, 2021).

7. Providing Ongoing Assistance and Feedback

It is critical for the successful implementation of OBE to provide continual assistance and feedback to instructors and students (Upadhyaya, 2021). Teachers may encounter the challenge of not having the tools and assistance they need to consistently enhance their instructional methods and assessments (Heng & Sol, 2021). Administrators can help educators and students overcome the challenge of limited resources and support by offering regular support and feedback (Yeung & Yau, 2022).

8. Aligning Resources and Learning Objectives

Aligning resources with specified learning outcomes is critical for OBE implementation success (Alonzo, Bejano, & Labad., 2023). Educators may confront challenges due to restricted resources such as time, funding, and materials (Barrot, Llenares, & Del Rosario, 2021). Administrators may ensure that educators have the tools they need to construct effective curricula, assessments, and instructional approaches by aligning resources with specified learning outcomes (Billingsley et al., 2019). Aligning resources with learning outcomes can assist in overcoming the resource constraint (Kara, 2021).

9. Creating an Environment for Collaborative Learning

Fostering a collaborative learning environment is critical for successful OBE deployment (Feyzi Behnagh & Yasrebi, 2020). Students may need to collaborate on projects in cinematography, and educators may need to engage with industry professionals to construct effective curricula and assessments (Dai et al., 2023). Educators may face the challenge of their educational institution lacking a collaborative culture (Caliskan & Zhu, 2020). Educators can overcome this barrier by developing a collaborative learning environment and providing students

with the skills they need to operate cooperatively in the business (Liebech-Lien, 2021).

10. Making Use of Technology

The use of technology can improve the implementation of OBE in cinematography (Yu, Hao, & Zhang, 2021). Technology may assist educators in developing effective curricula, examinations, and instructional methods, as well as providing chances for students to practice and perfect their skills (Koul & Nayar, 2021). Educators may face the challenge of not having access to technology or the expertise required to use it successfully (Turnbull, Chugh, & Luck, 2021). Administrators can overcome this barrier and improve OBE implementation by giving instructors access to technology and professional development opportunities (Rahim & Sandaran, 2020).

11. Including Real-Life Experiences

In order to effectively integrate OBE, it is critical to incorporate real-world experiences into the curriculum (Hawari & Noor, 2020). Students in cinematography may be required to work on real-world projects in order to obtain practical experience and build the abilities required to thrive in the business (Oh, Chan, & Kim, 2020). Educators may face the challenge of not having access to real-world experiences or the requisite industry relationships (Lake, Flannery, & Kearns, 2021). Educators may overcome this barrier and provide students with the practical experience they need to thrive in the industry by working together with industry leaders and incorporating real-world experiences into the curriculum (Oberg & Andenoro, 2019).

By implementing these interconnected strategies, educators can effectively overcome the obstacles they may encounter when applying OBE in cinematography within Chinese higher educational institutions (Xue et al., 2022). Furthermore, aligning curricula, assessments and instructional methods with industry standards and expectations, while providing ongoing support, and professional development opportunities and fostering a collaborative learning environment, holds significant potential for enhancing the education of cinematography students (Lasrado & Kaul, 2021). However, further research is necessary to explore crucial areas and refine these practices for optimal outcomes. The research questions presented in Table 5 can serve as a roadmap for future investigations.

Table 5. Future Research Questions

Future Research Questions
1. How effective are the proposed strategies for implementing outcome-based education in cinematography in Chinese HEIs?
2. How can outcome-based education be applied to various facets of film and media education?
3. How can the effectiveness of outcome-based education in cinematography be measured in the Chinese HEIs?
4. How can outcome-based education be implemented beyond the scope of Chinese HEIs and cultural contexts?
5. What effects does implementing outcome-based education have on students' learning outcomes and professional development in cinematography?
6. How can technology be used to improve the implementation of outcome-based education in filmmaking?

Future Research Guidelines

Outcome-Based Education (OBE) is a school of thought that emphasizes the outcomes that students are expected to attain rather than the process of learning (Akramy, 2021). OBE can be utilized in cinematography to prepare students for a profession in the film industry (Greenhalgh, 2020). OBE in cinematography necessitates the study of a number of aspects that can influence its future (Prasetyo, Rachmadtullah, Samsudin, & Aliyyah, 2021). These factors are crucial in ensuring that educators can effectively create and implement curricula, examinations, and instructional methods that are in line with industry norms and expectations (Khurniawan, Sailah, Muljono, Indriyanto, & Maarif, 2021).

1. Industry Guidelines

The film industry is continually evolving, and educators must stay current on industry norms in order to educate students for a job in the field (Jiang & Rafeeq, 2019). Industry standards offer educators a foundation for developing industry-aligned curricula and examinations (Manis, McKenna, & Sculthorp, 2022). However, educators may face difficulties if they do not have access to or understand the most recent industry standards (Oliveira, Grenha Teixeira, Torres, & Morais, 2021).

The integration of practical, real-world experiences into the curriculum has been identified as a potential strategy for enhancing the learning experience of students. Recent research conducted by Freyn, Sedaghatjou and Rodney (2021) suggests that educators can achieve this goal by collaborating with industry leaders which will develop the needed real-time knowledge and necessary skills in students. The integrating approach can amplify

OBE and make the students informed about what to expect in real-life scenarios as it presents them with real situations and challenges. The study conducted by Jackson et al. (2023) highlights the significance of educators keeping themselves abreast of the latest industry standards. The authors suggest that such an approach can be instrumental in ensuring that the curricula and assessments designed by educators are in sync with these standards. The incorporation of experiential learning opportunities within the academic curriculum has been shown to enhance the acquisition of critical competencies and knowledge that are fundamental to achieving success in one's chosen field by students (Bubou & Job, 2021).

2. Student Involvement

The efficacy of Outcome-Based Education (OBE) in the field of cinematography has been investigated by Tenedero and Pacadaljen (2021), who have found that the achievement of desired learning outcomes is contingent upon the active engagement of students. The acquisition of essential skills and knowledge for professional success is contingent upon active participation in the learning process, as per the findings of a recent study by Murkatik, Harapan and Wardiah (2020). Engaging all students in the learning process is a persistent challenge encountered by educators (Atiles, Almodóvar, Chavarría Vargas, Dias, & Zúñiga León, 2021).

To overcome this barrier, educators might use student-centered instructional methods and real-world experiences in the curriculum (Dunbar & Yadav, 2022). This can assist them in engaging pupils and developing the necessary skills and knowledge to thrive in the profession (Moorhouse & Kohnke, 2021). Hands-on activities, group collaboration, and project-based learning are examples of student-centered teaching methods (Isa & Azid, 2021). Students can understand the relevance of what they are learning and become more involved in the learning process by adding real-world experiences into the curriculum (Martínez Casanovas, Ruíz-Munzón, & Buil-Fabregá, 2022).

3. Evaluation and Assessment

For the successful implementation of OBE in cinematography, assessment and evaluation are essential (Tenedero & Pacadaljen, 2021). Educators must provide effective tests to assess students' attainment of learning outcomes (Adom, Mensah, & Dake, 2020). Educators, on the other hand, may confront the challenge of creating exams that are not linked with learning outcomes or do not accurately measure student success (Guangul, Suhail, Khalit, & Khidhir, 2020).

To overcome this barrier, educators should link assessments with learning outcomes, use technology, and include industry experts in the assessment process (Joshi et al., 2021). Educators can guarantee that tests effectively measure student attainment of learning outcomes by aligning assessments with learning outcomes (Adom et al., 2020). Educators can use technology to create evaluations that are more interactive and interesting for pupils (Zuhriyah & Pratolo, 2020). Educators can ensure that assessments are aligned with industry norms and expectations by incorporating industry professionals in the assessment process (Williamson, 2021).

4. Professional Advancement

Professional growth is required to successfully utilize OBE in cinematography (Howard, Herman, & Grams, 2020). To stay current on industry standards, instructional methods, and assessment strategies, educators require continual assistance and professional development opportunities (Darling-Hammond, 2020). However, educators may confront the challenge of not having access to or the resources to participate in professional development activities (Van Nuland, Mandzuk, Tucker Petrick, & Cooper, 2020).

Administrators can help overcome this barrier by providing continuing support and professional development opportunities (Emre, 2019). Workshops, conferences, and online courses are all examples of professional development options (Almusharraf & Khahro, 2020). Educators can receive the materials they need to build effective curricula, assessments, and teaching approaches by participating in professional development activities (Haug & Mork, 2021).

5. Curriculum Development

The design of the curriculum is critical for the successful application of OBE in cinematography (Yu et al., 2021). Educators must create curricula that are in line with industry norms and expectations, as well as curricula that properly monitor student accomplishment of learning outcomes (Asiyai, 2022). Educators, on the other hand, may confront the challenge of developing curricula that are not linked with industry standards or do not adequately measure student achievement of learning outcomes (Al Salman, Alkathiri, & Khaled Bawaneh, 2021).

The successful integration of outcome-based education (OBE) in the field of cinematography is contingent upon the meticulous development of the curriculum, as per the findings of S. Huang, Ge and Yin's (2022) recent investigation. Asiyai (2022) posits that the development of curricula that align with industry standards and expectations is a crucial aspect of educational practice. For this practice to be fruitful, it is important that

educators are aware of each industry's demands and trends so that they can train the students to meet the requirements of the market. Hence, it is crucial that the educational institutes, implement relevant strategies in their curriculum that would be aligned with the real needs of the job market. Asiyai (2022) highlights the importance of a curriculum design that is adaptable and reactive, prioritizing the integration of industry-specific knowledge and skills. The implementation of this approach is considered essential in guaranteeing that graduates acquire the requisite skills to excel in their specific domains. Assessing students' attainment of educational goals is a crucial element in the process of designing a curriculum. According to Al Salman et al. (2021), educators encounter significant difficulty in developing curricula that conform to industry standards and accurately evaluate students' achievement of learning goals. The successful completion of this task requires meticulous attention to detail and thoughtful consideration to guarantee that educational programs are pertinent and efficacious in equipping students with the necessary skills for the workforce. According to Crosby, Pham, Peterson and Lee (2020), educators can overcome the identified barrier by aligning curricula with industry standards, utilizing technology, and involving industry professionals in the curriculum development process. The implementation of such measures can aid in the assimilation of industry-specific knowledge and skills into educational curricula, ultimately improving students' readiness for employment.

The study's results emphasize the significance of cooperation between academia and industry to enhance educational outcomes that correspond with the requirements of the job market. Almuhaideb and Saeed (2020) conducted a study that emphasizes the importance of creating curricula that are efficient in providing students with the essential skills and knowledge required to excel in the industry. This study highlights the significant impact of curricula on shaping the upcoming workforce and fostering economic growth and development. The analysis of the variables outlined in Table 6 is anticipated to enhance the development of policy-making and mitigate hindrances.

Table 6. Future Research Propositions and Hypotheses

Future Research Propositions and Hypotheses
1. The implementation of outcome-based education in cinematography will result in improved student learning outcomes.
2. The development of innovative teaching strategies is required for the effective integration of outcome-based education in cinematography.
3. The effectiveness of outcome-based education in the field of cinematography is contingent upon the collaboration and backing of various parties involved.
4. The implementation of outcome-based education within the realm of cinematography holds significant promise for advancing the film industry as a whole.

DISCUSSION

The primary objective of this research was to investigate the methodologies utilized for implementing outcome-based education (OBE) in the realm of cinematography within Chinese Higher Education Institutions (HEIs). This exploration delved into understanding potential challenges, variables influencing the industry's future, and the various approaches available for effectively integrating OBE. Employing a conventional literature review methodology using the PRISMA approach, an extensive screening of 135 relevant papers was conducted. The results underscored the existence of diverse methodologies that could be effectively employed to incorporate OBE within the cinematic educational landscape of Chinese HEIs.

Critical to the successful execution of an OBE curriculum is the formulation of a comprehensive and structured curriculum that delineates specific learning objectives, evaluation criteria, and assessment techniques. Establishing clear educational expectations serves as a pivotal mechanism for ensuring that learners comprehend the curriculum's goals and possess the requisite competencies to achieve them. Moreover, embracing a variety of teaching approaches such as learning through case studies, and inquiry-based, and collaborative learning methods can prove beneficial in catering to the diverse needs of students (Almusharraf & Khahro, 2020). These diverse methodologies have shown potential not only in enhancing knowledge transfer but also in boosting student attentiveness and engagement, thereby preparing them to effectively navigate real-world situations.

An imperative aspect of any successful educational curriculum is the preparedness and proficiency of the educators. Just as in any educational domain, the effective implementation of OBE in cinematography necessitates continuous training for teachers, aligning their skills with the dynamic market needs. Furthermore, involving industry experts in the development and execution of educational syllabi can provide significant insights

into the fundamental competencies and proficiencies essential for workforce readiness.

However, despite the potential benefits, the successful implementation of OBE in cinematography within Chinese HEIs encounters several challenges. Notably, there exists a substantial deficiency in the awareness and understanding of OBE among instructors, learners, and other stakeholders. This lack of awareness could potentially lead to reduced receptiveness among students toward novel educational methodologies and a decline in their proactive participation in educational endeavors. Additionally, the development and execution of OBE programs may face challenges due to inadequate resources, including financial and material constraints (Kennedy & Laurillard, 2019).

Several factors significantly influence the potential trajectory of OBE in cinematography within Chinese universities. The integration of technology, particularly virtual and augmented reality, holds the promise of broadening educational engagement by providing learners with experiential learning opportunities through simulated environments. Furthermore, forging corporate partnerships and integrating work-based learning into the curriculum can offer students practical exposure while strengthening the bridge between academia and industry. Moreover, the application of data analytics within educational contexts has the potential to facilitate the evaluation of student learning achievements and identify areas necessitating further curricular enhancement (Ozkan & Umdu Topsakal, 2021).

This investigation signifies a pivotal endeavor aimed at exploring the successful integration of OBE in cinematography, situated within the framework of Chinese HEIs. The findings underscore the significance of a comprehensive curriculum, varied instructional strategies, teacher readiness, and robust industry partnerships as crucial factors in achieving success. These findings echo the conclusions drawn from prior studies, emphasizing the importance of these components in promoting successful educational outcomes. Furthermore, the implications extend to future educational policies and practices in cinematography and related fields, advocating the need for additional research to guide advancements that pave the path for students' academic and career success.

Finally, the research proposes several hypotheses, providing potential areas for further investigation. These propositions include the positive impact of OBE implementation on student learning outcomes, the necessity of innovative teaching strategies for effective OBE integration, the significance of collaborative support for OBE's success, and the potential advancement of the film industry through OBE implementation in cinematography. These propositions offer promising avenues for deeper exploration, contributing to a richer understanding of the potential impact of OBE in cinematography, and potentially steering educational practices and industry advancements to new heights.

CONCLUSION

The study explores the integration of outcome-based education (OBE) principles in China's cinematography education, identifying hurdles like insufficient educator support, exam-centric teaching, reluctance to adopt innovative methods, and limited resources. It reveals effective tactics to overcome these barriers, emphasizing educator guidance, practical skill-focused curriculum, technological integration, and industry partnerships. Integrating OBE into Chinese cinematography HEIs holds promise for enhancing learning outcomes and preparing students for global competitiveness. The study urges educators and leaders to embrace these strategies, collaborate with industry, and address challenges, contributing valuable insights to literature, and advocating for further research on their effectiveness.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This research has presented noteworthy findings based on the results. But it is essential to acknowledge and tackle specific constraints. The present study identifies a potential limitation regarding the generalizability of the results, as the emphasis on the Chinese HEIs may hinder the transferability of the findings to alternative contexts. The findings of the current study call for further investigation to understand the various challenges and new possibilities that can occur from adopting OBE for cinematography curriculum in the educational sector. Hence new researchers can contribute to the existing study by exploring new methods and by developing effective strategies to facilitate cinematography in education. The present study recommends conducting research on the execution of outcome-based education for cinematography education, with a focus on diverse geographic regions and cultural contexts. This investigation would contribute to the existing literature on the subject and provide valuable insights into the effectiveness of outcome-based education in different settings.

One of the drawbacks associated with the analysis pertains to its dependence on literature review techniques, which could potentially constrain its comprehensiveness. The potential implementation of a mixed-methods approach in forthcoming research endeavors could facilitate the collection of both qualitative and quantitative data, thereby enabling a more all-encompassing exploration of the assimilation of outcome-based education within the realm of cinematography education.

The survey's scope was limited to the perspectives of educators and educational officials, thereby excluding the viewpoints of students and industry workers. Future research could investigate these groups' opinions and experiences in order to provide a more comprehensive understanding of the incorporation of outcome-based education in cinematography education.

Finally, while the study presents practical advice for educators and education leaders, implementing these tactics and recommendations in practice may cause a number of problems. Future studies might investigate the implementation of these recommendations and techniques in real-world contexts, including implementation challenges and facilitators, to provide insights into the feasibility and effectiveness of these initiatives.

Finally, the current research takes into account the process of incorporating OBE in terms of cinematography curriculum in the educational system of China. Nevertheless, there are certain limitations to this study which can be tackled in future research which includes the usage of a mixed-method model for investigating how OBE in cinematography is being implied, in different nations and whether the results are the same as that in real-life context and lastly, the attitudes of industrial personals and students regarding the technological fusion with cinematography education.

THEORETICAL AND PRACTICAL IMPLICATIONS

This study has important theoretical implications since it adds to the existing literature on the integration of outcome-based education within cinematography education. The research analyzes the problems and opportunities connected with this integration, as well as the tactics and variables that can assist in overcoming these obstacles. The paper gives a complete assessment of the current situation of outcome-based education in cinematography in Chinese HEIs by integrating the existing literature on the subject.

The significance of connecting educational goals and objectives with real-world expectations and demands is one of the research's primary theoretical implications. Moreover, this study highlights the significance of adopting practical skills over traditional exams, so that the students may excel in the real world. Therefore, this research has shed light on the need for fusion between industry and educators so that the students may be prepared for real-world challenges and success in their careers.

This study's managerial implications are as essential since they provide practical recommendations for educators and education leaders in the Chinese HEIs. The report suggests techniques such as teacher training and professional development, curriculum development that emphasizes practical skills and critical thinking, the use of technology to improve learning, and collaboration with industry professionals and organizations. These tips can assist educators and education leaders in overcoming the hurdles of integrating outcome-based education into cinematography education and improving student learning outcomes.

The report underscores the importance of augmented governmental backing and allocation of resources towards the educational infrastructure to guarantee that students are equipped with a comprehensive education that equips them for triumph. The effective integration of educational technology and infrastructure necessitates a comprehensive strategy that encompasses a range of factors, including deliberate financial allocations, collaborative industry affiliations, and the availability of resources to support teacher preparation and ongoing growth. The successful integration of technology and infrastructure into the learning environment requires a collaborative effort among educational institutions as well as business leaders. This approach is imperative to ensure that the integration is effective and efficient. Collaboration is significant if an educational institute is looking for technological resources and knowledge transfer in its infrastructure and further for a smooth application of the whole process, the training of teachers is imperative so that they are skilled to deal with the new technological changes in.

Moreover, the results of this highlight the significance of practical skills and analytical thinking over academic scores. Which yet again motivates the sync of relevant industries and educational institutes. The current research study makes major contributions to the subject of education, particularly for teachers and educational administrators working inside the Chinese HEIs. The statement underscores the significance of enhancing governmental support and financial investment in the realm of education. This study has attempted to present innovative yet necessary strategies to enhance the quality of Chinese HEIs, with practical recommendations for all

stakeholders including policymakers and educators in academics. This study brought to light, the significance of implementing OBE, coupled with knowledge transfer and the use of technology for promoting critical thinking and student engagement.

The current research has yielded significant findings regarding the subject matter at hand. However, there are also certain weaknesses of this study. First, the sample size was not big enough and then this study is solely based in China so its results cannot be generalized for other economies, especially the developed countries. Moreover, the present investigation exclusively utilized self-reported measures, which are susceptible to response bias. The study at hand, despite its limitations, carries significant implications for forthcoming research endeavors in this domain. Future researchers are encouraged to replicate, the findings of the current study in different geographical locations and by utilizing diverse, bigger samples, for elevated external validity and better generalizability and to guarantee the strength of the results of the study. Through the analysis of results obtained from different settings, researchers can detect possible contextual variables that could impact the observed outcomes. Subsequent research endeavors ought to strive towards reproducing the present discoveries in diverse geographical locations to enhance the resilience of the inferences. The study recommends that future research should consider using multiple sources of data to triangulate findings and reduce the impact of response bias.

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APPENDIX 1

PRISMA Screening Exhaustive list of Scholarly Journals

Publisher	No of Publications
Review of Education	1
International Journal of Quality in Education	1
International Journal of Lifelong Education	1
International Journal of Emerging Technologies in Learning (IJET)	1
International Education Studies	1
International Journal of Leadership in Education	1
European Early Childhood Education Research Journal	1
Journal of Higher Education Policy and Management	1
Educational Studies in Mathematics	1
Perspectives in Education	1
Remedial and Special Education	1
International Journal of Educational Research	1
International Journal of Education and Development using Information and Communication Technology	1
Digital Education Review	1
Educational Sciences: Theory & Practice	1
Science Education	2
Journal of Positive School Psychology	2
International Journal of Teaching and Learning in Higher Education	1
International Journal of Art & Design Education	1
Media Practice and Education	1
Journal of engineering education	1
International Journal of Information and Education Technology	1
Action in teacher Education	1
Contemporary Educational Technology	1
Environmental Impact Assessment Review	1
Asian Journal of Education and social studies	1
European Journal of Education	1
Higher Education, Skills and Work-Based Learning	1
Cinematography in Progress	1
Educational assessment, evaluation and accountability	1
Journal of Computers in Education	1
International Journal of Education and Practice	1
Asian Journal of University Education	1
Cambodian Journal of Educational Research	1
International Journal of Educational Research Open	1
PLoS One	1
Australasian Journal of Educational Technology	1
Adult and Higher Education	1
Computers & Education	2
Education+ Training	1
Asia Pacific Media Educator	1
Interactive technology and smart education	1
Studies in Higher Education	1
Journal of Education and Educational Development	1
International Journal of Modern Education and Computer Science	1
London Review of Education	1
Research in Comparative and International Education	1

Publisher	No of Publications
Higher Education Quarterly	1
Innovative Higher Education	1
Journal of Education for Business	1
International Journal of Educational Technology in Higher Education	2
Journal of Education	2
The Journal of Continuing Higher Education	1
Teaching and Teacher Education	3
Higher Education Studies	2
The International Journal of Management Education	1
International Journal of Multidisciplinary Research and Publications	1
Educational Research Quarterly	1
International Journal of Sustainability in Higher Education	2
The Asia-Pacific Education Researcher	1
Journal of social work and Science Education	2
ENGLISH FRANCA: Academic journal of English language and education	1
Journal of Adult and Continuing Education	1
Vietnam Journal of Education	1
Education Sciences	4
International Journal of Evaluation and Research in Education	4
Journal of Leadership Education	1
IAFOR Journal of Education	1
British Journal of Educational Technology	2
International Journal of Technology and Design Education	1
International Journal of Inclusive Education	1
Journal for Multicultural Education	1
Journal of Advances in Education and Philosophy	1
International Journal of Instruction	2
Anatolian Journal of Education	1
Higher Education for the Future	1
Postdigital science and education	1
Rev. Eur. Stud.	1
Higher Education Research & Development	1
Multicultural Education	1
Journal of Social Studies Education Research	1
Port Said Journal of Educational Research	1
International Journal of Early Childhood Special Education	1
Innovative Teaching and Learning	1
Psychology and Education Journal	2
Frontiers in Educational Research	2
International Journal of psychology	1
Indonesian Journal Of Educational Research and Review	1
Journal of Education for Teaching	1
Annals of Entrepreneurship Education and Pedagogy	1
Environmental Education Research	1
Teaching in Higher Education	2
Critical Studies in Education	1
Educational Philosophy and Theory	1
Media International Australia	1
Education and Information Technologies	6
Creative Education	1

Publisher	No of Publications
Linguistics and Education	1
Contemporary Education and Teaching Research	1
Journal of Contemporary Educational Research	1
Feminist Media Studies	1
Sustainability	6
Universal Journal of Educational Research	2
Total	135