

Postgraduate Medical Educators' Perception of Continuous Professional Development in Pedagogy and Andragogy: The CME and CPD Crossover

Dr. Bawani Nesamany¹, N Sundari Subasini²

¹European Wellness Academy, Unit 67 & 68, Block K, Alamesra Plaza Utama, Jalan Sulaman, 88450, Kota Kinabalu. Sabah, ²UNITAR International University, Tierra Crest, Jalan SS 6/3, 47301 Petaling Jaya, Selangor.

Email: dr.bawani@ewacademy.eu

Corresponding Author Email: sundari@unitar.my

To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v13-i1/18365>

DOI:10.6007/IJARPED/v13-i1/18365

Published Online: 17 January 2024

Abstract

This qualitative research study investigates the awareness and perceptions of Continuous Professional Development (CPD) focused on andragogy among three key leaders within a wellness academy specializing in training physicians in the fields of bio-regenerative medicine and anti-aging. These leaders, who play pivotal roles as postgraduate medical educators, were the primary subjects of this study. Through interviews and thematic analysis, this research reveals a significant gap in the awareness and understanding of CPD among the studied educators. The findings demonstrate that they possess a fixed perception, equating CPD with Continuing Medical Education (CME), thus overlooking the broader pedagogical and andragogical dimensions that CPD encompasses. Key findings indicate that these educators have limited knowledge of the evolving methodologies, strategies, and best practices in adult education, which are essential for effective teaching in postgraduate medical education. Their predominant focus on CME, with its emphasis on clinical knowledge and skills, has mired their recognition of the broader educational development opportunities within CPD. This study sheds light on the critical need for professional development initiatives to bridge this awareness gap among postgraduate medical educators. By recognizing and integrating pedagogical and andragogical components, to distinguish it from CME, medical educators can better meet the evolving needs of postgraduate medical education and contribute to the advancement of the field. The findings offer valuable insights for medical education institutions and curriculum developers seeking to enhance the quality and effectiveness of postgraduate medical education through a more comprehensive understanding and integration of CPD principles.

Keywords: Medical Educators', Professional Development, Pedagogy, Andragogy, CME, CPD, Crossover.

Introduction

Continuous Professional Development (CPD) plays a pivotal role in ensuring that educators remain up-to-date with the latest advancements in teaching methodologies and educational practices. For postgraduate medical educators, CPD in pedagogy and andragogy is particularly crucial as they are responsible for imparting specialized knowledge and skills to future doctors. In the ever-evolving field of medical education, the ability to adapt teaching approaches and remain current with best practices is vital to fostering a competent and well-prepared healthcare workforce.

Are they intentionally involving themselves in professional development initiatives in the direction to acquire the andragogy tools to aid their teaching and learning as postgraduate medical educators?

This qualitative interview study aims to capture the rudimentary perception of postgraduate medical educators toward CPD in pedagogy and andragogy. Pedagogy refers to teaching methods tailored for traditional students, whereas andragogy addresses teaching approaches for adult learners. By investigating their perceptions, this study seeks to understand how postgraduate medical educators view the relevance and significance of CPD in enhancing their teaching practices.

The perusal gave an overview of the engagement and participation of postgraduate medical educators in CPD activities specifically related to teaching and learning. Understanding the extent to which educators are aware of andragogy/pedagogy solutions, theories, and tools available. These are believed to shed light on their personal knowledge, behavior, gap existing, and whether is it worth indulging in the probability to bridge that gap.

Problem Statement

The problem that stimulated this research is the existent gap in data regarding the state of CPD in

Pedagogy and Andragogy awareness among postgraduate medical educators and the lack of encouragement to be inclusive of pedagogy/andragogy specialists into the team. This further reduces their exposure to the tools that will aid them effectively to connect the impact they are creating on the postgraduate medical teaching-learning and the whirlpool of outcomes. To add to this, the subsequent implications of their personal growth as professional-educator and effectiveness as an educator inevitably affects the lives of patients, making this a valuable effort.

As such, this study's intent is to explore the perception of two medical practitioners cum postgraduate medical educators and one holding a key role position (without medical education or training) playing an administrative role.

Study Objectives

1. To gather and categorize the perception of postgraduate medical academics within one postgraduate medical academy towards their CPD in pedagogy and andragogy.
2. To identify (if any) differences in perception and engagement in CPD between two medical practitioners who are key postgraduate medical educators and an academic without a medical background who plays an administrative role within one postgraduate medical academy.

Study Questions

- ❖ What is the perception of postgraduate medical educators on “CPD in pedagogy and andragogy” for their medical teaching practices?
- ❖ What types (are they aware) of CPD activities do these postgraduate medical educators engage in to enhance their teaching skills and knowledge in pedagogy and andragogy?
- ❖ Does the above point of awareness between medical practitioners cum educators and nonmedical academic administrators?

The Purpose

The efficiency of postgraduate medical educators' professional development efforts is believed to be linked to knowing their awareness of CPD in pedagogy and andragogy and do (if) they see the relation of value to their teaching methods which in turn impacts the (broad) outcome of the program and learner experience. It is common for medical practitioners and academics to have compulsory documented commitments to their Continuous Medical Education with obligatory CME points to be annually submitted for the renewal of practice or teaching certification and extension.

The question here is, for postgraduate medical educators, there is no obligation to provide, for example, CPD in andragogy perusal evidence. Ever since teacher training in other fields, such as Engineering and Vocational Education where field experts choose to become educators within their field of expertise shown benefits and positive impact highlighting that such effort is no less important in medical and postgraduate medical education. How are they pursuing or will they pursue this path? The fundamental goal of this study is aimed to gauge whether they are aware of CPD in Andragogy and its key components.

This study is attempted by a believer that CPD in andragogy commitment has a positive impact and is overdue, on the development and growth of postgraduate medical educators, their quality of professional life, the teaching and learning process and outcome, and their students' journey in their postgraduate journey. This study intends to capture the actuality of these educators having some comprehension of what andragogy and pedagogy are as solution providers to their teaching careers. This is simply because it has a large room for improvement and it can use some encouragement to nurture the perspective of this group of educators in the belief's direction.

Why is this necessary?

Postgraduate medical educators as medical practitioners are obliged to engage in continuous medical education and submit annual evidence of minimum requirements to stay abreast with medical development. Such obligation or encouragement or emphasis is lower than needed for them to engage in continuous professional development in pedagogy and andragogy. Why is it important for continuous professional development in pedagogy and andragogy to be emphasized or to an extent, made an obligation for postgraduate medical educators?

The Necessity

There are many necessities for CPD in pedagogy and andragogy to simply stand a chance to be made essential for postgraduate medical educators and a few as follows are the focus of this study:

- i. To enhance teaching effectiveness
 - By making CPD in pedagogy and andragogy essential, educators can acquire and refine teaching strategies that are evidence-based and proven to enhance learning outcomes. This, in turn, ensures that medical educators are better equipped to impart knowledge, critical thinking skills, and clinical competence to their students. Effective teaching methods are vital in influencing the learning experiences of postgraduate medical students.

- ii. Adapting to Learner Diversity
 - CPD in pedagogy and andragogy equips educators with the tools and techniques to cater to the unique requirements of adult learners and traditional students alike. It enables educators to tailor their teaching approaches to accommodate diverse learning needs effectively. Medical educators encounter a diverse group of learners with varying learning styles, needs, and preferences. One will so, need to be equipped with tools and techniques to present ways their students can convey empathy to patients. Medical knowledge is undoubtedly key to addressing the content of the curriculum but for an educator to be able to present contextually, one will require tools to teach another on how to empathize with their students first and foremost. CPD in andragogy equips the said need.

- iii. Being abreast with educational advancements
 - Medical education is constantly evolving, with new research and advancements in pedagogy and andragogy. CME is key to medical practice and by no means is it to be compromised or a portion of it is consumed to allocate emphasis that replaces it with CPD in pedagogy and andragogy. However, by making CPD compulsory, educators are encouraged to stay current with innovative teaching methodologies, technologies, and evidence-based practices. This ensures that the educational experiences provided to postgraduate medical students remain up-to-date and relevant.

- iv. Student Satisfaction and quality doctors
 - Effective teaching directly influences student satisfaction and success in medical education. When educators are well-versed in pedagogy and andragogy, they are better positioned to engage students, create supportive learning environments, and address individual learning needs. Consequently, students are more likely to feel motivated, supported, and successful in their academic pursuits. The brain drain of doctors is a largely documented and reported incident in different developed and developing nations. The recent pandemic added fuel to this occurrence to surface. One of the many root causes of such outcomes is the relationship between senior medical practitioners (who most often are dual-rolled postgraduate medical educators) and their relationship with the junior medical candidates.

- v. Growth of medical education and its accreditation standards
 - Many medical education programs and institutions are subject to accreditation standards that require a focus on continuous quality improvement in teaching and learning. Requiring CPD in pedagogy and andragogy demonstrates the institution's commitment to meeting these standards and continuously enhancing the quality of education provided.
- vi. Postgraduate medical educational challenges
 - Postgraduate medical education faces challenges such as limited resources, large class sizes in some disciplines such as family medicine, and diverse learning needs to name a few. CPD in pedagogy and andragogy will be able to equip educators with the skills to address these challenges effectively, fostering a more adaptable and resilient educational environment. Such skills are not an inclusion by default in most postgraduate medical educators' induction and continuous medical education program.

The above gives room, to sum up the reasons so as to why making continuous professional development in pedagogy and andragogy essential for postgraduate medical educators is key to ensuring effective and high-quality medical education. The purposeful collaboration between education experts and medical experts needs to intensify. In due course, the investment in CPD for postgraduate medical educators benefits both educators and their students, contributing to the advancement of medical education and, consequently, the healthcare profession as a whole.

Literature Review

Postgraduate medical educators are responsible for shaping the future of doctors in practice, and their own professional development is crucial for effective teaching and mentoring. However, there is much room to implement postgraduate medical educators' continuous professional development in pedagogy and andragogy. The connection between the solutions presented when one sees the postgraduate medical education through the lens of andragogy, the professional himself evolves and most certainly becomes a more skilled solution provider to the list of challenges the postgraduate medical education has on its plate.

Medical educators must gain a thorough understanding of online platforms and technologies and comprehend that their own pedagogical approaches to teaching will, in fact, need to change to accommodate the online environment, according to O'Doherty et al.'s integrative review of literature on known barriers and solutions that educators face when developing and implementing online learning programs for medical students and postgraduate trainees 2018.

The findings of this investigation are hoped to fill the gap and provide valuable insights to inform the design and implementation of effective CPD programs tailored to the specific needs of medical educators built on andragogy tools and solutions for postgraduate medical education. However small the acquired data would be, it contributes to the data gap that exists on CPD in Pedagogy and Andragogy consumerism among postgraduate medical educators the *out-lay of this study includes pondering on the following*

1. The subjects' perception of CPD in andragogy and pedagogy.
2. Are they aware of the existence of andragogy and pedagogy theories, frameworks, solutions, tools, and strength of application to their practice as educators?
3. Is the non-medical academy administrator who is a certified teacher cum trainer, exposed to formal andragogy and pedagogy education, have a different (more hopeful) perspective than the others?

As explained by Dent and Harden, although most doctors are generally passionate about clinical teaching, changes have frequently prompted them to prioritize their clinical practice or research duties, which has reduced their time and energy for clinical teaching. The ability of seasoned physicians to teach in the manner to which they were accustomed has also decreased as a result of changes in the content and delivery style of medical education. So, given that they are already under pressure from other contractual obligations, is it viable to re-interest clinicians in medical education?

By bridging the gap between the theoretical elements of medical education and the associated language and the actual delivery of enthusiastic instruction, the book was aimed to meet this problem. This was in 2001. We have endured the pandemic and globalization at profound speed and change ever since. As such, today, the said transition ought to be much more proactive and beneficial. Postgraduate medical educators will need to be actively and purposefully taken on the route of exploring pedagogy-andragogy and heutagogy solutions. This is simply because a well understood tool, introduced, and trained becomes powerful in the hands of the user. And, this exploration will be effective when done with specialists in pedagogy and andragogy integrate with medical educators, an intended community learning.

The findings of this investigation are hoped to fill the gap and provide valuable insights to inform the design and implementation of effective CPD programs tailored to the specific needs of medical educators built on andragogy tools and solutions for postgraduate medical education. However small the acquired data would be, it contributes to the data gap that exists on CPD in Pedagogy and Andragogy consumerism among postgraduate medical educators.

According to Sherman and Chappell (2018), CPD in the US is learner-focused and faculty support rather than faculty-driven. The purpose of education is to close the professional practice gaps that exist among healthcare teams and individual practitioners. Longitudinal design interventions, active learning techniques, and adult learning principles are all incorporated by CPD providers. Higher-level outcomes that reflect competence (or intent to change practice), performance, and/or patient outcomes are used by CPD providers to assess the effectiveness of education (p. 2).

Lucardie and Busari say that the intervention group's gained knowledge of healthcare law and medical errors significantly improved, and the flipped classroom model (FCM) was thought to be an excellent teaching tool for these topics. The FCM was thought to encourage active learning among residents and facilitate their acquisition of knowledge. FCM interventions improve resident performance and ought to be more structurally integrated into postgraduate medical education (2017).

The pandemic challenge initiated change in medical education practical tip by Hall et al. states that daily routines have evolved due to training rotations, distance, and increased concern. Medical educators must adapt their curriculum to enhance learning, maintain

efficient care delivery, and ensure competent graduates. They must utilize available training opportunities, adapt to new technology, and prioritize student/faculty welfare. Communication, innovation, collaboration, flexibility, and planning are essential for competency-based medical education 2020.

The Fast Forward

In line with the transition in postgraduate medical education where once the professional qualifies, from being competent in using the core andragogy of self-directed learning to an autonomous, self-determined learner, the focus now shifts from competency to capability. Here, Chacko (2018) explained that heutagogy prevails and needs to be seen as a continuum of andragogical adult learning theory.

Heutagogical methods are better suited to postgraduate medical education, where learning and teaching are actively taking place among adults. By that time, these adults have developed into mature, autonomous learners who decide for themselves what to learn, how to learn it, and how to assess their own progress. Even in the early stages of professional education, exposure to these methodologies makes learning engaging.

But, are the postgraduate medical educators even aware of such teaching and learning concepts, theories, framework, and tools available to them?

Chacko (2018) also discussed heutagogy, heutagogical methodologies have become the methods of choice for skilled professionals seeking to advance their expertise in a field populated by knowledgeable patients and colleagues. Because a medical educator in post-qualification as a specialist is an autonomous professional who is capable of determining their own learning needs on the job, this places pressure on quality improvement in service delivery.

As discussed above, the problem addressed in this research is the need to acquire the perception and cognitive prevalence of postgraduate medical educators on continuous professional development (CPD) in both pedagogy and andragogy. Understanding how medical educators perceive CPD and its relevance in their teaching practices can shed light on the effectiveness of their professional development efforts as educators.

To add to this, the need to be inclusive and gain insight into a postgraduate medical academy administrator with no medical background's perception came to light.

Sherman and Chappell also discussed how new evidence in medicine and healthcare is published at an increasing rate, and how CPD is essential to ensuring that healthcare professionals remain competent in practice and are able to provide high-quality, evidence-based care. Sadly, there are still systems in place all over the world where CPD is not seen as a continuous part of the healthcare education continuum, which poses a serious threat to maintaining the competence of healthcare providers and raising the standard of patient care. Globally, the challenges in CPD include wide variations in its definition and structure, as well as varying standards and levels of oversight by nation or region (2018).

As studied by Teheux et al., intra-professional collaboration is crucial in postgraduate medical training, as it develops and reinforces discipline-specific cognitive maps. Multiple intraprofessional rotations in postgraduate training programs expose medical residents to diverse cultures and practices, resulting in high intra-professional learning potential. However, intraprofessional interactions can lead to productive tensions in communication and teamwork between medical professionals, encouraging learning through pushback, power disparities, and uncertainties. Conversely, conflicts between medical professionals

can be unproductive and hinder learning, as residents may lose interest in each other's perspectives. These tensions initially appear during postgraduate training, as doctors work and learn in different groups for the first time. Therefore, understanding how to build a collaborative practice-ready health workforce is essential for postgraduate training knowledge. The collaboration between academic experts who can contribute to the parallel construction of tools and solutions hand in hand with medical educators in such settings will surely be a productive and effective partnership.

The studies by Teheux et al. also show that obstacles to intra-professional learning in hospitals include stereotyping, geographical distance, technological obstacles, and misalignment of competency frameworks. These findings are context-dependent and cannot be generalized to all contexts. However, improving the alignment of primary and secondary care residency training curricula could lead to more effective inter-professional learning opportunities for residents during postgraduate training (2021). These are the very challenges described by O'Doherty et al. and Chako in 2018. The effort of the priorities above is ongoing and requires to up-the-speed at which the context of each has evolved, a growing demand-supply gap.

Methodology

This study employed a qualitative interview to derive the perspective of purposefully selected three candidates, two with clinical and practice medical backgrounds who are still serving and the other was an academy administrator without a medical background, all three linked in one postgraduate training academy.

As an attempt to gather various intricacies of subjects, this method gave room for people to share their viewpoints. This study used interviews with two postgraduate medical instructors and an academy administrator without a medical background to collect data. After being coded and subjected to categorical analysis, the gathered data provided insightful information on these postgraduate medical educators' awareness of pedagogy and andragogy.

The main goal of qualitative study is generally to delve deeply and richly into the experiences, attitudes, and actions of people. It looks for hidden patterns and meanings that quantitative study could miss. The interview methodology is a typical approach here that is hoped to enable us to have in-depth discussions with participants and collect information from them directly.

The Respondents

The background of these three individuals was examined alongside the change and growth brought to the academy. The challenges they have faced during the pandemic and the efforts they took to overcome the challenges to remain viable from the business perspective are commendable. The then contractor personnel helped to strategize and roll out campaigns for the academy, who now became the academy administrator replacing the interviewed academy administrator (ex-employee). The need to know the awareness and ability to empathize and select solution tools available in pedagogy and andragogy was of interest. A well-understood tool deployed strategically over time, well planned, will benefit the academy, and learners and it has to begin with the educators. The respondents are assigned pseudonyms to maintain the anonymity assured when consent to interview was acquired.

The Interview

To create a win-win situation, their preferred mode of responding was followed through. They were provided with a detailed introduction to the intent of this study, its relevance, and their response's importance. All three interviewees agreed immediately although it took substantial follow-up and reminders to acquire the data. They were not keen in face to face interviews due to personal reasons. This study had to compromise their comfort to obtain responses in ways comfortable to the interviewees. All communication was via Whatsapp as they were all preoccupied with travel and existing workload. One medical postgraduate educator (Pseudonym: DK) and the academy administrator (Pseudonym: JS) responded via Whatsapp voice notes to the list of questions provided to them in advance. The other medical postgraduate educator (Pseudonym: VC) responded as typed texts to the questions provided in advance as he shared his discomfort to verbally communicate in English as it is not his first nor second language. To overcome the barriers and to proceed with input versus focusing on limitations, data collection was pursued.

The data collection was done to suit the participants who were given the opportunity to contribute their opinions, knowledge, and existing viewpoint about postgraduate medical education via openended interview questions. To an extent, although there is much room to deepen and enrich the data acquired, allowed participants to express themselves and ensured the gathering of varied data. For analysis, the interviewees' audio was captured and transcribed.

The coding procedure was perused after gathering the raw data. Then, it was thoroughly read to categorically summarize followed by coding to derive the analytical conclusion of the interviewees' awareness of pedagogy and andragogy. A basic categorical analysis after coding was done. Grouping related codes based on keywords derived from summarized data into categories or themes is a component; a categorical analysis was completed. This process makes it easier to spot broad trends and have a better understanding of the subject. It enabled the condensation of broad data into narrowed themes that capture respondents' points of view, aligned to their knowledge of pedagogy and andragogy.

To reduce the risk of jargon or terminology unfamiliar to medical educators, to not to mislead, the respondents are given the description as to what is pedagogy and andragogy prior to perusing with the interview questions.

Several major findings from the interviews with the postgraduate medical educators and the academy administrator without a medical background were identified. The study technique used in this study allowed for a rudimentary analysis of the postgraduate medical educators' predicament in this landscape. This approach extends beyond numerical measures and statistical analysis, providing a better comprehension of the human aspects of the respondents, and their role in postgraduate medical education. This illuminates concerning gaps, points at areas of improvement, and a glaring need for intervention and purposeful development.

Data Analysis

The academy administrator has left the position. The goal was to determine if the three respondents had an awareness of andragogy and pedagogy, and their relativity to contributing to the development of the postgraduate medical education they are deploying internationally.

The Academy

The gap that was prevalent in the academic administrator's (no longer with the academy at point of data analysis) work culture was seen to be in the area of convincing the medical educators, to win their collaboration argumentatively from the medical grounds. This was a small setback where generic solutions that were predominantly sales oriented did not convince the medical educators to add to their existing workload. This challenge is hypothesized to be rooted in the lack of medical background of the academic administrator which further reduced the empathy factor to diagnose the andragogy tool fit for the on-ground challenge. This is a specific issue and may not serve to be generalized across other postgraduate medical institutions as here, clinical hands-on or bedside learning is minimal if not none.

On the other hand, additional information required is that the academy also faced challenges where besides self-directed self-motivated continuous medical education efforts taken by the medical educators in-house, there were no other professional development trainings that were adjuvant to the academy nor made available. This is also seen as a setback as leadership skills, collaborative projects, and training skills or tools introduction were not planned nor made available for almost a decade. Most of the dynamic shifts to equip the self to stay productive throughout the pandemic in the education job description were group initiated with no management role in it.

Overall, the raw data had spread out that the Continuous Professional Development in Postgraduate Medical Education especially in pedagogy and andragogy has a huge room for fostering awareness, excellence, and innovation.

The highlights of the data point to Continuous Medical Education (CME) as a key priority and is an indispensable facet of postgraduate medical education, serving as a dynamic avenue for acquiring new skills, enhancing teaching methodologies, and staying updated with the latest advancements in the medical field. Medical practitioners' commitment to CME is not just a professional requirement but a catalyst for delivering improved patient care and staying at the forefront of medical knowledge.

The importance of CPD in postgraduate medical education is synonymized with CME, is weighed as pivotal for maintaining relevant knowledge and data in the rapidly evolving medical landscape. Practicing relevance is integral to skill enhancement and subsequently, patient care improvement.

CPD in postgraduate medical education constitutes a proactive approach toward professional growth, enabling medical educators to adapt to the latest scientific developments and evidencebased teaching techniques.

The challenges and strategies presented in this analysis point that medical educators engaging in CPD i.e. CME often attend conferences, and workshops, and utilize social media to stay updated and share knowledge. They actively transform outdated lectures by incorporating 25% changes and employ social media for disseminating short content, raising pertinent questions, sharing data, and facilitating problem-solving for further learning and improvement.

The CME encompasses diverse areas such as aesthetics, pain management, disease prevention, and regenerative medicine, extending beyond core medical curricula. Notably, CME practitioners emphasize personalization, leveraging surveys and online or face-to-face sessions to tailor learning experiences.

To enhance CME programs, educators are opined to tap into medical networks, attend conferences, engage in active networking with fellow physicians, explore industry trends, and collaborate with non-member associations. These efforts expand horizons, disseminate crucial information, and elevate knowledge levels. As for personal development and challenges, CME is frequently suggested to be a self-directed journey, involving active searches for resources and participation in workshops to learn new methodologies and tools relevant to teaching. While CME activities are beneficial, they require effective time management, with a larger weightage of time allocated to work and minimal for CME. Striking a balance is essential for efficient educators.

For postgraduate medical educators to adapt and evolve with teaching techniques and dynamics of development, medical professionals must adapt to evolving teaching techniques, one needs to be ready to transition from traditional face-to-face classrooms to dynamic virtual learning environments and leverage technological tools like Schoology and Moodle for effective skill enhancement. It is also stated that learner and field expert feedback and postgraduate medical education's future growth are closely interlinked. CME may enhance teaching effectiveness by generating student feedback, evaluating program outcomes, and shaping future program continuation based on relevance and usefulness. Feedback surveys before and after CME activities provide insights into individual experiences, enabling constant improvement.

These are the standpoint-acquired data on the respondents' awareness on CPD in andragogy and pedagogy.

The Discussion

The key distractor across the data gathered, transcribed, summarized coded, and categorized is; the respondents have below minimal awareness of andragogy and pedagogy. The evident lack of clarity on the fundamental difference between CPD in andragogy and pedagogy and CME is prevalent. It is glaring. The CPD in andragogy and pedagogy to improve and enhance their teaching skills which creates an impact on learners' learning experience is seen as one with CME or a part of CME. Essentially, CME is not andragogy or pedagogy solution presenting by origin and function. They are two completely different segments although they do fit under the broad umbrella of Continuous Professional Development of any sector.

On one hand, CME is not just a mandatory obligation but a dynamic pathway to excellence in postgraduate medical education where medical knowledge and skill update is the core goal. On the other hand, CPD in pedagogy and andragogy for medical education emphasizes how that goal can be achieved.

The data confirms the mixed viewpoint of the two postgraduate medical educators and the academy administrator. The viewpoint deduction points out that the respondents have a grasp that by pursuing and achieving the conventional medical-specific compulsory CME outcomes made broadly available, the educators ensure their teaching methods are current, relevant, and aligned with the changing needs of adult learners. In an era of rapid scientific evolution and innovative teaching methods, CME empowers medical educators to be effective, adaptable, and responsive, thereby contributing to a higher standard of patient care and overall medical education.

Various variables affect how well regular Continuing Medical Education (CME) programs work to improve the andragogy abilities and tool use of medical lecturers and clinician

trainers. Although CME programs are intended to offer continual learning opportunities for healthcare professionals, including educators, their effectiveness in enhancing andragogy skills and the efficient use of tools may vary depending on a number of factors such as the relevance of information, choices of teaching methods, interactive learning tools, applicability to medical content, engagement, and learners' experience. However, these not necessarily are noted and developed by medical educators by default. No. This area where stating the obvious, recapitulation of pedagogical/andragogy tools as an option, research, and evidence that it influences efficacy of medical teaching and so forth are most certainly under-developed in postgraduate medical education.

Yes, it is essential that CME programs present information that is relevant to the audience. It may substantially improve their andragogy abilities and the efficient use of andragogy technologies provided the material is in line with the unique demands and problems that medical lecturers and clinician trainers confront in their educational jobs. To illustrate how these strategies might be used in instruction, CME programs themselves should use excellent andragogy techniques. If the CME experience exemplifies the finest practices in adult learning, it may be used by educators as a useful model for their own instruction. Active involvement, case discussions, group exercises, and practical sessions may help participants better grasp andragogy tools and how to use them but stated that such methods are andragogy tools and by the reflective intentional presentation of the andragogy solutions available, will add more impact to the change aimed. Yes, interactive teaching strategies enhance learning by reflecting the andragogical concepts but do postgraduate medical educators know what strategies are available for them to deploy?

To suit the various demands and degrees of experience among medical lecturers and clinician trainers, CME programs should ideally include some degree of modification. The special difficulties that educators encounter might not be addressed by a one-size-fits-all strategy. They will benefit if the modification pathways are presented blatantly as opposed to hoping for them to *figure it out* alongside the CME participation. It is pertinent to note, constant involvement in educational improvement (CPD in pedagogy/andragogy) is just as essential as regular CME especially with the speed of technological intervention flipping learners' experience in knowledge acquisition, and skill practice and application. For andragogy abilities and tool deployment to significantly develop over time, one or a few CME events may not be enough. It may be more beneficial to promote continual learning and involvement in longer-term initiatives or communities of practice. If it is time and cost concerning to host separate CPD in pedagogy/andragogy for postgraduate medical educators, it is even more crucial to offer after-care assistance for CME programs from a pedagogy/andragogy lens. To effectively use the newly learned skills and tools in their instructional situations, medical educators will require assistance. Without continued assistance, the effects of CME with purposeful pedagogy/andragogy reflective exploration can wane with time. The leaders and operators of CME events can improve their program by carefully evaluating the learning outcomes of participants and gathering feedback. This guarantees that the methods and information provided fit the requirements of educators, helping to advance their andragogy abilities. This segment was emphasized by the respondents as well.

CME programs have to include a range of learning opportunities, such as online courses, workshops, seminars, conferences, and mentoring programs. Due to the variety, instructors

may select solutions that best fit their schedules and learning preferences. This will have to be paired with pedagogy/andragogy solutions and tools.

CME versus CPD in pedagogy/andragogy

Frequent CME programs are beneficial for developing the andragogy abilities and efficient deployment of andragogy tools among medical lecturers and clinician trainers but are multifactorial by nature. The importance of CPD is particularly pronounced when it comes to pedagogy and andragogy in postgraduate medical education. While undergraduate and postgraduate education provides foundational knowledge, CPD ensures educators remain updated with the latest teaching methodologies and scientific advancements. CPD in medical pedagogy and andragogy is distinct from traditional education, demanding adaptability to varying expectations and motivational objectives of adult learners.

Constructivism in education emphasizes the importance of prior knowledge and understanding in the construction of information. This approach involves reviewing and reinforcing past knowledge, using hypothetical-deductive reasoning and serves as the foundation for various human interactions. Constructivist cognition is supported by the brain's physical makeup, promoting active learning and educational strategies. It is crucial for educators in medicine and health sciences to understand the foundational tenets of constructivism and its impact on educational theory and clinical practice (Dennick, 2016).

Conclusion

Postgraduate medical educators have a substantial impact on the skills and knowledge of future medical professionals. However, recent research indicates that they might benefit from further training and support, particularly in the areas of adult teaching and learning theories, methodologies, and evaluations.

Numerous studies have revealed that a sizable number of postgraduate medical educators lack experience, formal induction, training, support, and exposure in the field of adult teaching and learning. According to Trainor and Richards, Teaching physicians highlighted in this survey highlights key areas medical school and hospital administration may concentrate on to increase support of both teaching physicians and medical educators. Lack of recognition and insufficient assistance are the biggest self-perceived impediments to success. There is still much space for improvement, even though there have been demands for action for years to include medical educators within the framework of academic medicine and more especially to train teaching physicians on the best methods for teaching in the clinical context 2021.

When teachers are not exposed to adult teaching and learning theories and methods, they may rely on out-of-date teaching techniques. These approaches might not be successful in enticing adult learners and meeting their diverse learning preferences. This mismatch may hinder both the quality of medical education and the capacity of trainees to develop crucial skills.

As presented by Aitken et al., they explored the evolving understandings of teachers' identities and professional identities, focusing on repertoire development, viewpoint changing, embodied practice, and appreciation of context. Healthcare educators develop a repertory of prospective practices and theories, adopting diverse viewpoints and creating embodied strategies for adapting to different contexts. They also recognize the cultural, political, and social aspects that influence teaching practice, acknowledging the limitations

of direct control over settings and the effort required to effect change in complex systems. This subject acknowledges the significant limits that may be placed on teaching practice, the inability of having direct control over many significant settings-related factors, as well as the types of effort required to effect change in complex systems 2022.

Instructors' lack of proficiency with a range of assessment methods and tactics may hinder their capacity to accurately evaluate learners' skills and provide beneficial feedback. This limitation on evaluation techniques may result in inaccurate assessments of learners' progress and insufficient suggestions for improvement. Adding to this, the lack of exposure, formal introduction, training, and support in adult teaching and learning has significant repercussions such as where the adult learners may not be completely engaged or have their chosen learning methods taken into account as a result of outdated teaching practices. Learners' progress may be hampered by a lack of exposure to varied assessment approaches, which may undermine the validity of competence evaluations. Postgraduate medical instructors must get significant training and assistance. Institutions should employ pedagogy and andragogy induction processes to acquaint teachers with adult learning theories and cutting-edge instruction methods. Participating in pedagogy-related workshops, seminars, and online courses can help this group of educators become more proficient.

Aitken et al. also stated that postgraduate study can help instructors continue to grow and develop their skills through experimentation, reflection, and discussion with peers. This is mildly prevalent when the data acquired across the three respondents who significantly functioned as peers in the academy is revisited, even the administrator with pedagogy and andragogy fundamental knowledge presented the CPD in a CME context.

Kost and Chen stated that it will be a major project and call for structural and cultural change to turn the practice of pinging into a practice of questioning that takes into account purpose, Socratic principles, and adult learning theories. Faculty development initiatives, support from medical departments, and modest, gradual behavior modification tactics will be crucial, as outlined in other disciplines. Although altering questioning habits will be challenging, we cannot afford to put off implementing this new paradigm of asking in medical education since the potential rewards in terms of a better environment that fosters community and learner success are so enormous 2015.

It is generally acknowledged that the lack of formal induction programs substantially restricts instructors' ability to adapt current teaching methods. Without a comprehensive introduction to adult learning theories and pedagogical concepts, teachers find it difficult to meet the specific requirements and features of adult learners, which leads to less successful educational experiences.

According to Mukhalalati and Taylor, to complement more widely used pragmatic viewpoints, educators in the healthcare professions should take into account the philosophical foundations of healthcare professional education as well as the nature of healthcare knowledge. By putting more theoretical thought into healthcare professional education, this way of thinking will assist educators in reorganizing curricula, instructional methodologies, learning objectives, and evaluation methods, thus improving student learning experiences 2019.

To create training programs that meet educators' needs and are flexible enough to change with the changing medical education landscape, collaboration between medical education departments and educational specialists is crucial.

What is the contextual contribution of this research?

Kost and Chen emphasized that transforming the practice of "pimping" into a more constructive approach involving questioning, aligned with purposes, Socratic principles, and adult learning theories, will be a substantial undertaking requiring both structural and cultural shifts. It will necessitate faculty development initiatives, support from medical departments, and the gradual implementation of behavior modification strategies, as seen in other fields. Although modifying established questioning habits will present challenges, delaying the adoption of this new educational paradigm in medical instruction is not an option, given the enormous potential benefits it holds in terms of creating a more supportive learning environment that enhances community and student success 2015.

It is widely recognized that the absence of formal induction programs severely limits instructors' ability to adapt their teaching methods effectively. In the absence of a comprehensive introduction to adult learning theories and pedagogical concepts, educators struggle to meet the specific needs and characteristics of adult learners, resulting in less effective educational experiences.

According to Mukhalalati and Taylor, educators in healthcare professions should broaden their perspectives beyond practical considerations and consider the philosophical underpinnings of healthcare professional education and the nature of healthcare knowledge. Incorporating more theoretical aspects into healthcare professional education can aid educators in restructuring curricula, teaching methods, learning objectives, and assessment approaches, ultimately enhancing the learning experiences of students 2019.

To develop training programs that cater to the evolving landscape of medical education and align with educators' requirements, collaboration between medical education departments and educational experts is essential. This work contributes to further validating the need for the induction of medical educators into andragogy and a purposeful, planned collaboration between medical education departments and educational experts is a prevalent gap.

Validation of Findings

A tertiary educator-member checking was conducted, where a colleague from another tertiary institution, in the English language department was requested to review the findings and confirm categorical coding and analytics summary. A face-to-face discussion without formal writing task burden, the reviewer was met. Once the input was acquired, the preconceived conclusion based on research questions, objectives and problem statement was consented.

Ethics

Ethical considerations in this study include obtaining informed consent from participants, ensuring confidentiality and anonymity, and protecting sensitive information, the study complies with ethical guidelines involving human subjects. No potential conflicts of interest is present.

Limitation

The English language proficiency of one of the respondents and the limited time available were the core limitations of this study. The findings from this research, however small, are hoped to add to the existing data that helps with the understanding of how postgraduate medical educators perceive CPD in pedagogy and andragogy and its influence on their roles

as educators. This is further aimed to help inform the development of more targeted and effective CPD initiatives, ultimately enhancing the quality of medical education and ensuring that future healthcare professionals receive the best possible training, not only through the Continuous Medical Education pathway but also in academic CPD in pedagogy and andragogy pathway.

Acknowledgement

This study would like to acknowledge all who have contributed their time and knowledge, and to UNITAR International University for supporting this research.

References

- Aitken, G., Fawns, T., Warren, K., & Jones, D. (2022). Making space to learn about teaching: Expanding teaching horizons through postgraduate education. *Advances in Health Sciences Education*. <https://doi.org/10.1007/s10459-022-10144-4>
- Chacko, T. V. (2018). Emerging pedagogies for effective adult learning: From andragogy to heutagogy. *Archives of Medicine and Health Sciences*, 6(2), 278. https://doi.org/10.4103/amhs.amhs_141_18
- Dennick, R. (2016). Constructivism: Reflections on twenty-five years teaching the constructivist approach in medical education. *International Journal of Medical Education*, 7, 200–205. <https://doi.org/10.5116/ijme.5763.de11>
- Dent, J. A., & Harden, R. M. (2001). A practical guide for medical teachers. Retrieved from <http://eprints.qums.ac.ir/1679/1/A%20Practical%20Guide%20For%20Medical%20Teachers%20-%201st%20Ed.pdf>
- Hall, A. K., Nousiainen, M., Campisi, P., Dagnone, J. D., Frank, J. R., Kroeker, K. I., Brzezina, S., Purdy, E., & Oswald, A. (2020). Training disrupted: Practical tips for supporting competency-based medical education during the COVID-19 pandemic. *Medical Teacher*, 42(7), 756–761. <https://doi.org/10.1080/0142159x.2020.1766669>
- Kaufman, D. (2018). Teaching and learning in medical education. In John Wiley & Sons, Ltd eBooks (pp. 37–69). <https://doi.org/10.1002/9781119373780.ch4>
- Kost, A., & Chen, F. M. (2015). Socrates was not a pimp. *Academic Medicine*, 90(1), 20–24. <https://doi.org/10.1097/acm.0000000000000446>
- Leach, D. C. (2005). In search of coherence: A view from the accreditation council for graduate medical education. *Journal of Continuing Education in the Health Professions*. <https://doi.org/10.1002/chp.24>
- Lucardie, A. T., & Busari, J. O. (2017). The Flipped Classroom as a pedagogical tool for leadership development in postgraduate medical education. *Education Sciences*, 7(2), 63. <https://doi.org/10.3390/educsci7020063>
- Mukhalalati, B., & Taylor, A. (2019). Adult Learning Theories in Context: A Quick Guide for Healthcare Professional Educators. *Journal of Medical Education and Curricular Development*, 6, 238212051984033. <https://doi.org/10.1177/2382120519840332>
- O’Doherty, D., Dromey, M., Loughed, J., Hannigan, A., & McGrath, D. (2018). Barriers and solutions to online learning in medical education – an integrative review. *BMC Medical Education*, 18(1). <https://doi.org/10.1186/s12909-018-1240-0>
- Sherman, L., & Chappell, K. (2018). Global perspective on continuing professional development. *The Asia Pacific Scholar*, 3(2), 2. <https://doi.org/10.29060/taps.2018-3-2/gp1074>

- Teheux, L., Coolen, E., Draaisma, J. M. T., De Visser, M., Haan, N. S., Kuijer-Siebelink, W., & Van Der Velden, J. A. (2021). Intraprofessional workplace learning in postgraduate medical education: A scoping review. *BMC Medical Education*, 21(1). <https://doi.org/10.1186/s1290902102910-6>
- Trainor, A., & Richards, J. B. (2021). Training medical educators to teach: Bridging the gap between perception and reality. *Israel Journal of Health Policy Research*, 10(1). <https://doi.org/10.1186/s13584-021-00509-2>

Appendix

Code 1 - summary Code 2 – key to analysis & conclusion

Code 1 - summary Code 2 – key to analysis & conclusion						
	VC Code 1	VC Code 2	DK Code 1	DK Code 2	JS Code 1	JS Code 2
1	This approach helps practitioners stay relevant and improve their skills, ultimately leading to better patient care.	Practicing relevance enhances skills, improving patient care.	Continuous Professional Development (CPD) in post-graduate medical education refers to the acquisition of new skills and knowledge essential for professional progress and development.	CPD in post-graduate medical education involves acquiring new skills for professional growth.	It involves continuous updates and upgrades in knowledge and data, including courses, online resources, and hands-on readings. CPD is mandatory for medical practitioners to maintain certificates or good standing in their field, ensuring they stay updated and relevant in their treatments.	Continuous professional development (CPD) is mandatory for medical practitioners to maintain relevant knowledge and data in their field.
2	CPD is essential for both pedagogy and andragogy in postgraduate medical education, as it ensures that educators are up-to-date with the latest medical information and teaching practices. In pedagogy, CPD is crucial for staying updated	CPD is crucial for pedagogy and andragogy in postgraduate medical education, ensuring educators stay updated with science development and evidence-based techniques.	Professional continuous development (CPD) in pedagogy and andragogy in the medical field differs significantly from undergraduate and postgraduate education. Undergraduate education requires basic teaching tools and methods, while postgraduate education requires more refined teaching methods	CPD in medical pedagogy and andragogy differs significantly from undergraduate and postgraduate education, requiring adaptability to differing expectations and motivational objectives.	CPD in pedagogy and andragogy differ significantly from traditional medical programs, as they focus on imparting critical and functional skills for medical practitioners. CPD extends these skills to specific areas, such as public health and regenerative medicine, which are still bench-to-bedside. These programs should be curated to reflect the advanced syllabus of bioscience, bio-regenerative biomed,	CPD in pedagogy and andragogy focuses on imparting critical and functional skills for medical practitioners, extending to areas like public health and regenerative medicine, focusing on advanced syllabuses.

Code 1 - summary Code 2 – key to analysis & conclusion

	with science development and using evidence-based techniques, while in andragogy, it respects adult knowledge and addresses specific learning goals.		and targeted delivery. The expectations for learners and motivational objectives also vary, making it essential for andragogy specialists to adapt to these differences.		and biotech-related subjects, rather than focusing on elementary items.	
3	Attends conferences and workshops to enhance knowledge and expertise.	Attends conferences and workshops to improve knowledge and expertise.	They view CPD and as they (educators) use two practices: updating old-school lectures with 25% change, and using social media for recording short content, highlighting questions or recently published data, and are prepared for concise summaries to highlight problems and solve them. The content is then circulated for further learning and improvement.	CPD practitioners update old-school lectures with 25% change and use social media for recording short content, highlighting questions, data, and problem-solving for further learning and improvement.	CPD focuses on topics like aesthetics, pain management, disease prevention, and regenerative medicine. It gathers data from surveys across the medical fraternity to understand the current needs of medical practitioners. Leading universities in India offer relevant programs that can be taught online or in face-to-face sessions. The academy has a large student base from 60+ countries, offering different sessions based on time zones. Hybrid sections allow attendees	CPD covers aesthetics, pain management, disease prevention, and regenerative medicine, utilizing surveys and online or face-to-face sessions. Leading universities in India offer diverse programs, attracting students from 60+ countries.

Code 1 - summary Code 2 – key to analysis & conclusion

					to share views and ask personal questions, ensuring a diverse and engaging experience.	
4	Conducting research using social media and global connections.	Research using social media and global connections. Self directed	Staying informed about the latest practices is challenging without actively searching resources. To learn new methodologies, individuals often attend workshops and learn from others' teaching methods. They apply these techniques, learning new techniques and tools from their experiences, ensuring they are relevant and useful in their own teaching.	Staying updated on latest practices requires actively searching resources and attending workshops to learn new methodologies and tools relevant to teaching.	To improve CPD programs, the author utilizes existing medical networks, attending conferences, and networking with physicians in practice. They also explore industry trends and collaborate with non-member associations and academy students to offer tailored programs to members and non-members.	Improve CPD programs by utilizing medical networks, attending conferences, networking with physicians, exploring industry trends, and collaborating with non-member associations.
5	Professional development broadens horizons, shares current information with students, enhancing their knowledge.	Professional development expands horizons, shares information, and enhances knowledge.	CPD is crucial for professional growth and development in medical education, as it enhances teaching quality and learning outcomes by introducing new tools and methodologies.	CPD enhances medical education professional growth by introducing new tools.	CPD improves teaching effectiveness and student learning outcomes by generating feedback. Students provide feedback after workshops, clinics, and training, and track responses over time. This	CPD enhances teaching effectiveness by generating feedback from students, determining program effectiveness and

Code 1 - summary Code 2 – key to analysis & conclusion

					helps determine the effectiveness of programs, such as regenerative medicine and staffing solutions workshops. The decision to continue office programs or discontinue them in the future is based on relevance and useful topics.	determining future program continuation based on relevance and useful topics.
6	Overcoming laziness is challenging, but starting is essential.	Start overcoming laziness, it's crucial.	Engaging in CPD is enjoyable, but time constraints may be a challenge. However, a brief assessment and deep learning are enjoyable. There are no significant issues with involvement, except for time constraints.	CPD enjoyable, brief assessments, deep learning enjoyable, time constraints may hinder involvement.	Challenges arise when students or practitioners feel that CPD is not relevant for their busy schedules. To overcome these challenges, it is essential to find topics that students actively want to learn more about and match them with existing products. Additionally, obtaining CME points or CPD points from the local medical council is crucial, as they have strict guidelines for recognizing CPD programs. Attendees can receive timely information on industry trends and renew APC certificates, ensuring they	Challenges arise when students or practitioners find CPD irrelevant for busy schedules. To overcome these, identify topics students want to learn, align with existing products, obtain CME points or CPD points from local medical councils, and stay updated on industry trends.

Code 1 - summary Code 2 – key to analysis & conclusion

					stay up-to-date with the latest trends.	
7	University-provided online summer school courses.	Self directed	The most beneficial CPD activities for me are structured, short-term, focused, and dedicated to a specific field of expertise. These activities should be short-term, focused, and involve experts reading lectures or conducting workshops. I prefer structured activities with active participation from attendees.	CPD activities are beneficial for experts, focused, and short-term, involving active participation from attendees in specific fields.	In my personal development academy, I focus on professional programs focusing on time management and public health. I understand the importance of data collection and designing suitable products to reach my understanding of the medical industry. CPD programs are useful for nonmedical practitioners.	Personal development academy focuses on time management, public health, data collection, and CPD programs for nonmedical practitioners.
8	Not a problem for VC.	Self directed	The challenge of managing time between work and CPD activities is significant, as at least 80-90% of time is spent on work, while 20% or less is spent on CPD. A calendar or schedule for CPD activities could help, but it is not currently implemented in	Manage work-to-CPD time effectively, as 80-90% of time is spent on work, while 20% is spent on CPD. Implementing a calendar or schedule is challenging due to limited frequency.	To be an efficient educator, it's crucial to be aware of current trends and use tools for imparting knowledge. Time management is essential, especially when deciding on CPD points needed for professional practice. To schedule programs, look through relevant programs and allocate budgets for CPD	Efficient educators must stay current with trends, use tools, manage time, schedule CPD points, and allocate budgets for relevant programs.

Code 1 - summary Code 2 – key to analysis & conclusion

			practice. Although structured, the frequency of these activities is rare and requires more frequent scheduling.		programs in the year before.	
9	CPD in pedagogy and andragogy is crucial for educators and administrators, varying based on individual needs, career stages, and evolving educational landscape.	CPD essential for educators, varying based on needs, career stages.	CPD is crucial for both pedagogy and andragogy providers due to the challenges they face in achieving expected outcomes and learning outcomes. Andragogy educators face limited communication opportunities and face the challenge of teaching students with pre-existing opinions and knowledge. CPD is especially important for those teaching in andragogy, as they often need to challenge pre-existing opinions and skills, making it even more important for them to adapt and improve	CPD is key for pedagogy and andragogy providers, as they face challenges in achieving expected outcomes, adapting to pre-existing opinions, and enhancing teaching methods.	CPD is crucial for educators and administrators at all levels, as it ensures practitioners in various fields provide quality service to their clients. It is essential for professionals in various fields, including medical, education, and personal financial planning, to ensure they provide the best possible service to their clients. Both back-support admins and front-facing educators must prioritize CPD to ensure their professional needs are met.	CPD is vital for educators and administrators to ensure quality service in various fields, including medical, education, and financial planning, and prioritizes both back-support admins and front-facing educators.

Code 1 - summary Code 2 – key to analysis & conclusion

			their teaching methods.			
10	To achieve goals, educators should set clear objectives, collaborate with students, be flexible, incorporate diverse teaching methods, and receive feedback for future development and progress.	Educators should set objectives, collaborate, be flexible, use diverse methods, and receive feedback.	To effectively address pre-existing issues, it is essential to establish a baseline before teaching, assess pre-existing knowledge, and identify the specific problems and challenges faced by postgraduate students. Evaluate their objectives, expectations, and needs, and design CPD activities that address these issues.	Establish baseline, assess knowledge, identify postgraduate students' problems, evaluate objectives, expectations, and needs, and design CPD activities to address pre-existing issues.	The initial feedback survey is conducted before creating and delivering content, focusing on target audience and practical feedback. The survey and post tools are used to align with specific needs.	Conducting initial feedback survey before content creation, focusing on audience and needs.
11	As professionals, we evolve new teaching techniques and adapt to ongoing changes in pedagogy. (key = not relevant)	Professionals adapt to evolving teaching techniques and pedagogy changes.	Continually learning new teaching techniques and methodologies leads to progress in both educators and students, as they see differences in their learning experiences.	Learning new teaching techniques improves educators and students' experiences.	As an educator, it is crucial to improve oneself by transitioning from traditional face-to-face classroom settings to dynamic multi-platform digital learning on virtual platforms. This has become more critical since the Covid pandemic.	Educators must transition from traditional face-to-face classrooms to dynamic, virtual learning, utilizing programs like Schoology and Moodle to enhance their

Code 1 - summary Code 2 – key to analysis & conclusion

					in 2020. To maximize learning tools on these platforms, educators must attend and learn from programs like schoology and Moodle.	skills and adapt to the Covid pandemic.
12	Attending conferences, workshops, and webinars is essential for continuous learning and gaining student feedback and observing progress.	Attend conferences, workshops, webinars for continuous learning, feedback, and progress observation.	The application of new teaching methodologies and techniques can improve student engagement and response. Time is crucial, and reducing teaching time can lead to success. Higher engagement levels indicate higher success, while engaged students actively connect with the topic. The teaching of a topic also influences its successful application by students.	New teaching methodologies enhance student engagement, reduce time, and positively impact topic application, resulting in higher engagement levels and better learning outcomes.	Post-workshop and post-training feedback forms will use design questionnaires to understand the experiences of individuals in various aspects of India delivery, including contact, learning activities, and environment. These components help identify areas for improvement and identify ways to enhance India's delivery efficiency.	Post-workshop and post-training feedback forms utilize questionnaires to understand individual experiences in the delivery, identifying areas for improvement and enhancing efficiency.
13	Incorporating technology and teaching methods in medical education and	Technology and teaching methods enhance medical education, patient care.	New teaching methods and techniques offer two main benefits: reduced time spent mastering a specific	New teaching methods provide reduced time spent mastering a topic and higher success rates, influenced by students' ability to learn	In the last three years, integrating tech and innovative teaching programs has shown potential benefits. With lockdowns and social	In the past three years, integrating tech and innovative teaching programs has shown

Code 1 - summary Code 2 – key to analysis & conclusion

	academy administration fosters dynamic learning environments, promoting lifelong learning and improved patient care.		topic and a higher percentage of successful learning outcomes. The first factor is the time factor, which refers to the amount of time spent on mastering the topic. The second factor is the percentage of successful learning outcomes, which is determined by the student's ability to learn faster, save time, and increase their chances of successful application.	faster, save time, and increase chances of successful application.	distancing regulations, creative ways to reach learners have been developed, reaching both local and global audiences. Zoom tools, such as questions and breakout rooms, have enabled the creation of andragogy activities for participants. These tools should be integrated into CPD programs for future growth.	potential benefits, including creative ways to reach learners and incorporating Zoom tools for future growth in CPD programs.
14	New technologies, such as VR and AI, are expected to impact the field, necessitating adaptability and interdisciplinary research and education. Staying in this	Emerging technologies demand adaptability, interdisciplinary research, and continuous growth.	Further development will involve integrating digital platforms, AI, and electronic technologies into teaching to maintain personal contact between teachers, education providers, and students. This will involve incorporating new data from	Integrating digital platforms, AI, and electronic technologies in teaching enhances personal contact, knowledge acceptance, and immersive learning experiences.	Moving forward, online content will be more dynamic and customizable, using platforms like Zoom for live and interactive sessions. Customizing needs using platforms like Moodle and exploring hybrid options like 3 days online and 1 day in hospitals or clinics.	Online content becomes dynamic, customizable, using Zoom, Moodle, and hybrid options.

Code 1 - summary Code 2 – key to analysis & conclusion

	evolving industry requires continuous learning and growth.		psychology, focusing on the human brain as the learner's brain, and enhancing knowledge acceptance. This integration will help learners understand important information and improve the delivery of teaching methods. By incorporating subconscious techniques and tools, the integration of these technologies will enhance the learning experience and promote a more immersive learning experience.			
15	I don't do much. Sharing news, updates, and skill development opportunities in the field when possible.	news, share updates, and skill development opportunities	To encourage CPD culture, provide examples of educators who gained popularity and became opinion leaders in specific areas. Utilize their techniques, tools, and innovations to motivate colleagues	Encourage CPD culture by sharing successful educators' examples and promoting education.	Incentives can be offered to employees to redeem benefits within the organization or work from home. This helps maintain relevance and personal pride in the field. Barriers may arise due to time constraints or budget constraints. To address these issues,	Incentives motivate employees to redeem benefits, maintain relevance, and address barriers like time and budget constraints.

Code 1 - summary Code 2 – key to analysis & conclusion

			to continuously innovate and promote education. Share others' success as an example of the importance of CPD in pedagogy and andragogy.		administrators should encourage educators to renew their APC and provide more budget for face-to-face or online sessions. Incentives can also be used to motivate attendees to redeem benefits.	
16	Have no, any prior interaction experience.	No experience	The medical field is rigid and resistant to innovation and continuous professional development (CPD). A successful educator must constantly update themselves and improve their teaching skills, requiring time and effort. While a good doctor can be a good educator, both are possible, but a good educator must be well-informed and professional to impress and gain trust from students.	The medical field is rigid and resistant to innovation and continuous professional development (CPD). Medical field rigidity requires continuous professional development for educators to impress and gain trust.	Resistance to CPD often stems from busy schedules and lack of budget. To address time issues, it is important to emphasize the link to KPIs and the need for APC renewal. Administrators should fight for more budget for educators, both in-person and online, and incentivize attendees to redeem benefits. This will help ensure compliance with regulations and promote a more inclusive environment for educators.	CPD resistance stems from busy schedules, budget constraints; emphasize KPIs, APC renewal, and benefits.
17	CPD in andragogy relies on	CPD in andragogy relies on institutional.	Institutional support is crucial for significant CPD	institutional support is vital for medical CPD development.	The management team's support and resources play a crucial role in	Management team support and resources are

Code 1 - summary Code 2 – key to analysis & conclusion

	institutional support, collaborations, guidance, research, and financial support to keep educators informed about recent developments and best practices.	collaboration, research, and financial support.	development in the medical field, as it ensures structured, scheduled, and scientifically properly built development in pedagogy and andragogy.		fostering a corporate culture of continuous education and lifelong learning. This is essential for professional and personal development, as it helps allocate resources effectively. The organization's strength in educators and practitioners is crucial for business continuity and survival. Investing in the CPD of educators and people is essential for the overall success of the organization.	crucial for fostering continuous education, lifelong learning, and organizational success.
18	Uses authoritative non-biased publications and follows great scientists without question.	Utilizes reliable, non-biased sources and follows influential scientists.	Before applying, benchmark with credible individuals, such as educators or influencers, to ensure evidence-based CPD and innovation, rooted in modern research.	Benchmark with credible individuals for evidence-based CPD and innovation.	The panel of experts within institutions will consult on content creation and provide metrics for measuring program outcomes, enabling feedback activities to move forward.	Expert panel advises on content creation, program outcomes, and feedback.
19	Exploring self-development and learning as one undergoes exponential growth.	Self directed.	Achieving higher success rates and better outcomes in postgraduate medical education is crucial for students to learn	Improve postgraduate medical education success rates by increasing awareness, attracting students, and	Bio-regenerative sciences involves bridging laboratory and clinical settings to promote innovation and effective solutions. Collaboration	Bio-regenerative sciences promote innovation, collaboration, and improved postgraduate

Code 1 - summary Code 2 – key to analysis & conclusion

			new techniques, innovations, and methodology. Increased awareness and spreading the news can lead to a larger number of postgraduate students attending upcoming courses. This can improve the quality of service and increase the number of professionals in the field. Successfully implemented CPD for educators can contribute to this improvement.	implementing CPD for educators.	with industry partners, including R&D, manufacturing, and clinical settings, ensures that new treatments are easily digestible and rolled out into series for optimal absorption. By providing practitioners with relevant tools and resources, the community benefits from improved postgraduate medicine and education.	medicine education through laboratory-clinical collaboration.
20	Postgraduate medical educators seeking CPD in pedagogy and andragogy should follow cutting-edge science, find relevant CPD, try new learning methods, and consider adult	Medical educators should adopt cutting-edge science, explore new learning methods, and consider adult learners' preferences.	Be open to trying new techniques and exploring educational options. Be afraid to experiment and try new approaches, as you may discover dramatically improved outcomes tomorrow. Be innovative, experimental, and open-minded to discover new ways to	Explore new techniques, explore educational options, and be innovative.	As educators, it is crucial to invest in lifelong learning, professional development, and personal growth. Investing in CPD programs to renew APCs is not enough; improving personal practice is essential for business longevity. Up-to-date, relevant, and quality-value-for-money education is crucial for	Educators must invest in lifelong learning, professional development, and personal growth for business longevity.

Code 1 - summary Code 2 – key to analysis & conclusion

	learners' preferences.		improve educational outcomes.		patients and consumers. CPD programs should cover both internal and external environments, ensuring relevance and quality in practice.	
--	------------------------	--	-------------------------------	--	--	--