Connecting the dots in pharmacy education: The FIP International Pharmaceutical Federation Global Competency Framework for Educators and Trainers in Pharmacy (FIP-GCFE)

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Abstract

The FIP (International Pharmaceutical Federation) Global Competency Framework for Educators and Trainers in Pharmacy (FIP-GCFE) is an ongoing project of the Academic Pharmacy Section of FIP in cooperation and collaboration with Sections, Special Interest Groups and Working Groups across the Federation. It was developed by a group of experts in pharmaceutical education to enable and promote the continuing professional development of pharmacists and pharmaceutical scientists who plan to advance their competence as educators and trainers in pharmacy and the pharmaceutical sciences, whether in a formal or informal context, and at all levels of education and professional development. The FIP-GCFE will be an essential resource for multiple stakeholders including individual educators, faculties of pharmacy, and accreditation agencies. This article presents the introductory text of the GCFE first version, connecting previously launched concepts and tools and explaining the integration with all other FIP workforce support frameworks, to provide a holistic approach to global workforce development.

Introduction

The International Pharmaceutical Federation (FIP) is committed to supporting the implementation of the FIP Global Development Goals (DGs) and the Global Vision for Education and Workforce. Since publishing the Global Competency Framework in 2012, there have been increasing calls for a framework to support the development of advanced practice and, alongside that, developmental frameworks that support special interests in the generic areas of education and training, research and development, and leadership and management. In 2019, FIP prioritised the development of an FIP Advanced Global Development Framework' (GADF) (FIP, 2019) to support the advancement of the pharmaceutical workforce and form the basis for supplementary special interest development frameworks.

The need to support the professional development of pharmacy educators and trainers in pharmacy profession was recognised by the FIP Academic Pharmacy Section which was committed to the implementation of the FIP vision on workforce development. Therefore, the Project Initiation Document was created in early 2019 for FIP Global Competency Framework for Educators and Trainers in Pharmacy (FIP-GCFE). Project partners and collaborators who have the appropriate experience, as well as generational, geographical and professional diversity, representing various sectors of pharmacy education were identified and engaged in the core team, following the One FIP strategy (FIP, 2022a).

The main goal of this initiative was to create a new set of competencies for pharmaceutical educators and trainers globally for the first time and promulgate a valid self-evaluation and career development tool. FIP-GCFE will be a new competency development framework for all those wanting to further develop education and training skills as part of their ongoing personal and professional development.

Connection of GCFE with GADF

GCFE, as an extension of GADF, is built on the principles of GADF (FIP, 2020). Both frameworks intended to be relevant and applicable across a broad range of career options that are available in the pharmacy profession. Areas for further professional growth and development in the domain of education and training were identified. GCFE is not focused on a single sector and is designed to be applicable for all educators and trainers in pharmacy including, educators, trainers, mentors, and preceptors in pharmacy, henceforth collectively referred to as

'educators'. There is clear link of the GCFE competencies to the FIP GADF. This developmental design provides a unique global resource for colleagues who can use it as part of a wider library of advanced developmental tools produced by FIP.

The GCFE, similar to GADF also has 'stages' of advancing from the beginning level, via expert guidance in the area of education, up to leadership in an area of expertise (nationally and internationally). The language/lexicon of both frameworks are allligned to allow translation and transferance to national and regional context anywhere in the world. Moreover, the GCFE, as with the GADF, is designed to be 'adopted and adapted', respecting the context of the local, national or organisational user. Both Frameworks are holistic and are to be used in a developmental manner, designed to be generalisable and adaptable across all settings and roles in which pharmacy education occurs.

GCFE as a Holistic framework – An inclusive approach to education

Pharmacists have a duty of care to all those who need their help. Medical need is the only criterion that should determine the provision of healthcare. Similarly, education should be available to everyone. Consequently, pharmacy education must be open to all and supportive of all.

Some of the social determinants of health include: poor educational attainment, nutritional deficiencies, poverty and the genetic variation predisposes different ethnic groups to particular diseases. In addition, the migration of people, whether voluntary or involuntary, is increasing, and disparities in wealth are continuing to increase. Pharmacists advocate for their patients and are becoming more involved in humanitarian healthcare (Delaruelle, Van Houtte, & Bracke, 2020).

A competent pharmacist should demonstrate and express the values associated with equity, diversity and inclusiveness in their professional practice. Consequently, healthcare professions and universities around the world are putting equity, diversity and inclusiveness at the centre of their strategies for developing the education of the healthcare professionals of the 21st century.

Pharmacy educators should adopt the following principles to actively foster an inclusive approach to education:

1. Appreciate the concept of diversity as a positive influence for the didactic enrichment of learning as well as educator professionalism.

2. Promote education as a force for the social emancipation of learners.

3. Adopt a plurality of learning mechanisms, activities and assessment approaches across multiple learning environments to tailor education to the individual learner and their learning requirements.

4. Participate in collaborative practice with colleagues within the institutions and other stakeholders eternal to the institution and the wider community.

5. Encourage and cultivate a love of lifelong learning amongst learners, oneself and colleagues

Act in accordance with ethical and deontological principles set out by relevant national and international professional codes of ethical practice (Mura, Zurru, & Tatulli, 2019).

GCFE as developmental framework: Following the continuum of advancement

The FIP-GCFE is designed as a tool that builds on the Education, Training and Development cluster of the FIP-GADF. The framework recognises the important role that educators perform supporting the future pharmacy workforce, and as such it is a framework designed to support educators to develop their practices through reflecting and advancing their capabilities. The GCFE describe different stages of practice, to reflect the variety of educational roles globally, but educators should view it as a tool to continually develop their practices across the range of activities that education entails rather than just the end goal of achieving the highest advancing stage as possible. The GCFE can be used to support identification of learning needs on a regular basis, providing a structure upon which educators can base their continuing professional development, continuing education or personal development plans. The pharmacy workforce must continually reflect on their practices, likewise the educators providing support for students and learners to develop new knowledge, skills, and behaviours must also reflect on their practices. Academic capacity (FIP Development Goal 1) has been identified as a key priority for developing the workforce due to the rate at which science, practice and policy are advancing globally. Therefore, as the techniques to educate scientists and pharmacy professionals also develop, the GCFE will be a significant tool in supporting educators to maintain and advance their practice on a continual basis.

Portfolio as a recommended tool to support educator's CPD

The GCFE supports the development of a professional portfolio of evidence and is a particularly useful foundation for pharmacy educators in various sectors. It suggests the use of portfolios as current 'best practice' for developmental frameworks in healthcare professional education. The GCFE supports the development of a professional portfolio of evidence (FIP, 2022b).

FIP has strongly emphasised the need for pharmacists to engage in long-life learning, which has adopted by many countries, with pharmacists having to complete a set of professional development courses or learning activities to maintain their licenses to practice (FIP, 2014). There are, however, various models to achieve that end, ranging from more passive accumulation of credit units to reflective learning processes and/or demonstration of competencies. Certain countries, like Ireland, demand that pharmacists document their learning activities in an electronic portfolio (e-Portfolio) and participate in an e-Portfolio Review process (Kennedy *et al.,* 2019).

A professional portfolio is, by definition, a written record of professional practice for continuous development purposes (Kostrzewski *et al*., 2009). These portfolios may take a more traditional approach, using paper-based records, but could also be web-based becoming e-portfolios, making use of growing digitalisation (Lopez, 2011). Regardless of the format, the content of the portfolio is the key aspect, allowing the portfolio to track the individual's own learning by capturing relevant professional development activities for updating knowledge and skills, such as attending courses, reading books, and exploring guidelines. Reflecting in the open writing paragraph about the needs of the learner, self-evaluation against the standards or identifying the needs of the organisation might be a good start for planning and application of educator's learning. The professional development activities should be aligned with the personal and professional needs highlighted in the portfolio under the goal planning section, where the needs are identified and aligned with expectations in terms of behaviours, knowledge, skills or attitudes. Therefore, the portfolio should include a learning plan and a learning activity worksheet for each completed activity. (Tofade *et al*., 2013.) Additionally, the portfolio should have a reflection section, where the individual can record how the learning allowed changes in the professional practice, science and their learners.

An example of a successful implementation of pharmacists' learning portfolios programme, as part of a new continuing education model aiming to support competency development, was created in Turkey, and then expanded to 16 additional countries. This programme, entitled as 'Learn Today-Apply Tomorrow', led to changes at the pharmacist and at the organisational level, which translated into practice changes and influenced the patient care process, specifically the management of non-communicable diseases (NCD) (Rouse & Meštrović, 2020). The same concept is applicable to educators and researchers, where the impact could be measured at the learners' level for educators and at the scientific and scholarly levels for researchers.

The FIP-GCFE applies specifically to educators, who practice in university or college, but also to those who provide education through their non-academic institutions, such as: associations or organisations that serve the pharmacy profession, including pharmaceutical societies, pharmacy associations and even smaller private educational entities or practice settings where pharmacists provide experiential education to pharmacy students or interns. Some of these educators have a mandatory requirement to develop research, whereas others do it as part of their educational or development activity. It is also important to consider that some educators may not be pharmacists, but they serve future or current pharmacists, and as such these recommendations are also applicable to them.

The adoption of portfolios in undergraduate, continuing, and professional education has been a growing trend. Coupled with the associated adoption and direction of competency-based education and training (CBET) competency development frameworks, portfolios as development mechanisms are becoming ubiquitous. Recommendations from the American Association of Colleges of Pharmacy and the American Society of Health-System Pharmacists (Wright *et al.*, 2014), focusing on the teaching development for educators are in alignment with advanced pharmacy practice frameworks in Australia (Ali *et al.*, 2016), together with further examples from the United Kingdom (Mils *et al.*, 2005), Singapore (Singapore Pharmacy Council, 2011), Qatar (College of Pharmacy, Qatar University, 2010), Ireland (The Pharmaceutical Society of Ireland, 2013) and Portugal (Ordem dos Farmacêuticos, 2014), to name just a few focusing on continuing professional education for practicing pharmacists. For a full review of current trends, see Udoh and colleagues (2021) article.

It is worth noting that the same concepts are applicable to academic settings, particularly that the Accreditation Council for Pharmacy Education (ACPE) guidelines state that preceptors should 'have a systematic, self-directed approach to their own continuing professional development (CPD), which have led certain faculties to adopt specific tools for preceptors, including portfolios. (Wright *et al.*, 2014; Tofade, 2015).

Several studies describe how evaluation methods for educators have changed since the millennium in the United States and include the progressive uptake of formalised self-appraisal of teaching, review of teaching portfolios, interviews with samples of students, and review by teaching experts (Barnett & Matthews, 2009). In the era of digitalisation, new ways of communication exist, and educators need to be updated in order to reach the younger generation in a suitable and relevant way, respecting diversity. Educators have specific needs in terms of learning (in their area of specialisation or any local or organisational needs) and there are core competencies that should be up to date. Some of these are described in the document produced by Working Group 2 in the FIP Development Goal 1: Academic Capacity entitled 'Identification and dissemination of best practice and developmental tools/materials' for educator professional development (FIP, 2020).

For an educator and trainer, as described in this framework, it is not only important to plan and prepare educational activities, but it is also important to be competent in providing appropriate feedback to learners and inspiring others by serving as a role model. These competencies are best reflected and recorded in the portfolio, and professional organisations, including FIP, are producing specific guidance on how to do this.

Education is about preparing learners for evolving practice in diverse areas and therefore educators need to professionally develop themselves to be able to link education to practice by maintaining links with pharmacy practice with its everchanging laws and scopes.

Quality assurance of education and educators' competence development connections

Competent educators can contribute significantly to the quality of education, its outcomes and impact. Conversely, educators who lack the necessary competencies can negatively impact the quality of education. Accordingly, there is a natural connection between the core principles and elements of the GCFE and those of FIP's Global Framework for Quality Assurance of Pharmacy Education (QA Framework) (FIP, 2014). The QA Framework focuses on under-

graduate pharmacy education, and the following comments are provided within that context, although the core quality principles apply to all areas of education and training.

Central to the QA Framework are the Pillars and Foundations of educational quality; namely, Context, Structure, Process, Outcomes, Impact, Science, Practice, and Ethics. While many factors influence quality in these eight areas, the competence of the academic staff at faculties of pharmacy certainly plays a role in each area. Ensuring that the academic staff have the desired competencies to start with and, thereafter, maintain and enhance them through a process of continuing professional development (CPD) is vital to assuring quality in pharmacy education. Foundational to this effort is the clear articulation of the competencies needed to contribute to quality education; this is the focus of the GCFE. Additionally, identifying and understanding these competencies can contribute to the effective performance evaluation of academic staff, as well as assisting them in their own reflection, assessment of professional needs, and setting of developmental goals. There are competency and quality related indicators for each of the eight pillars and foundations of quality that apply to academic staff. When these are appropriately addressed, they contribute to well-rounded educators, in the same way that addressing all elements of competence leads to a well-rounded student learner.

Members of the academic staff and educators in general are among the key stakeholders in the quality assurance of pharmacy education. It is, therefore, essential that they understand the core principles of quality and the elements that can contribute to – or undermine - quality in each of the pillars and foundations. Some examples can be found in Table I.

The development and structure of the GCFE

In the initial work of the core team, the main areas of competencies for educators and trainers, based on literature, consultations, internationally organised workshops, as well as meetings and feedback from the core team, were identified and mapped with GADF in creating the structure of the Framework (Advance-he.ac.uk., 2019; Caena, & Redecker, 2019; Jones *et al*., 2012; Haryono, Subkhan, & Widhanarto, 2017; Hesketh *et al*., 2001; Kobalia & Garakanidze, 2010; Mandal, 2018; Nessipbayeva, 2012; The Government of Western Australia, Department of Education and Training, 2014; Vosper, & Hignett, 2018).

Expert practice of an educator was considered to be the area in which educator provides teaching (e.g., technology or pharmacokinetics or patient care or communication in healthcare), and most core competencies were mapped with to the Education and Training cluster which has now become the primary focus and most visible as the first part of the GCFE.

Most of the other educator competencies fit into the Education and Training Sector of GADF. The rest of the competencies were added under the other clusters of the GADF, using appropriate wording.

The Education, Training and Development cluster in this version has been chosen to be the core competency cluster, therefore it has a somewhat extended structure, including indicators to describe the professional profile of an educator in pharmacy. Behavioural statements are then written across three stages, as explained above. The rest of the structure of GCFE retained that of the GADF with only minor changes. Those minor changes were mainly adjust-ments in the statement and sometimes in competency titles (descriptions). Further plans include the valid-ation of the Framework, as well as extension of the content including the guidelines for educator development empowered by an engaged approach from the AcPS working group on educator development.

Description of the GCFE clusters

The structure of GCFE follows the GADF clusters, with some extensions and additional explanations, as can be seen in Table II. More advanced stages of development include descriptions of how an educator should inspire others, show integrity, provide feedback and assessment, mentor and guide, as well as to plan and prepare education activities, perform teaching, training and assessment and use varying teaching and learning methodologies. In their own professional develop-ment, an educator should nurture personal develop-ment and growth, ensure professional development and specialisation, as well as show cultural awareness and responsiveness. An educator should ensure teaching is in the context of practice, as well as conduct training and continuing education activities based on science. Ensuring and assessing the quality of educational activities, participating in curriculum design and modification and aligning with educational policy and regulation are also important competencies at advanced stages in the career of an educator in the pharmacy profession.

Table I: Elements of quality of education – Some examples of the relations with the educators' competence (Meštrović & Rouse, 2015)

Pillars and foundations of educational quality	Examples	Statement
Context:	- needs-based education driving the faculty's vision and mission - understanding contemporary and future practice - acknowledging the wider context in which higher education operates - awareness of and addressing culture, diversity, equity, and inclusion - engagement with stakeholders and the community	Competent educators and trainers have a vital role in designing educational strategies that are holistic, feasible, and sensitive to the current situation in the country or organization through participating in expert panels, surveys, round table discussions, and focus groups related to pharmacy education.
Structure:	- establishing effective organisation, leader-ship, and governance - building a harmonious, respectful, ethical, and inclusive educational environment - compliance with education and accreditation standards - capacity building - financial sustainability	With the availability of appropriate qualifications, experience, materials and resources, competent educators and trainers can build an effective learning environment that ensures quality of education and is supportive to learners in all levels.
Process:	- strategic planning - promoting collaboration and cooperation - curricular design, development, delivery, and assessment - advising and mentoring - embracing innovation - leveraging technological advances - evaluating performance - fostering and supporting professional development of academic and other staff.	A competent educator and trainer is able to use a variety of teaching and learning methods as well as assessment and feedback techniques. This should be complemented by demonstrating abilities to effectively use digital tools, as well as mentorship and evaluation techniques (Drumm *et al.,* 2020).
Outcomes	- preparing competent graduates, with self-directed lifelong learning skills - serving the community - conducting research and other scholarly activities.	Competent educators and trainers should be attentive to contemporary practice and support learners' continuing professional and competency development.
Impact	- commitment to change and continuous quality improvement - preparing agents-of-change - changing pharmacy practice - advancing knowledge - advancing the profession - solving problem - meeting societal needs and priorities.	Competent educators and trainers have an important role in building current learners' competencies, which in turn will impact future practice. Although the direct impact of education on practice is sometimes difficult to measure,[3] educators should be aware of the of present and future practice and provide the education and training needed to fulfil societal needs and priorities
Science	establishing a strong scientific and evidence base for all activities.	This foundation is important to guide curriculum development and design. Competent educators and trainers demonstrate expert skills and knowledge in their field and offer quality educational activities that are evidence based.
Practice	bridging science/theory and practice; developing skills for real-life application.	The competent educator and trainer demonstrates abilities in creating a holistic learning environment from bench (science and theories) to bedside (practice and patient care).
Ethics	cultivating and nurturing empathy, professional attitudes and values; compliance with regulations and ethical standards.	Professionalism and ethical practice are critical competencies that competent educators and trainers should be able to demonstrate and transfer to their learners at all levels.

Table II: Description of the GCFE clusters

1.Education, Training & Development
1.1.Role model
1.2.Mentorship
1.3.Conducting Education & Training
1.4.Professional Development
1.5.Links Practice, Science and Education
1.6.Educational Policy

2. Research, Evaluation and Scholarship
2.1.Identifies Gaps in The Evidence Base
2.2.Develops and Evaluates Research Protocols
2.3.Creates Evidence
2.4.Applies Research Evidence into teaching and practice
2.5.Supervises and teaching others Undertaking Research
2.6.Establishes Research Partnerships

3.Expert Professional Practice
3.1. Expert skills and knowledge
3.2. Professional expertise, including accountability and responsibility
3.3. Reasoning and Judgement Including: Analytical skills, Judgemental skills, Interpretational skills, Problem solving skills,Coping with uncertainty,Option appraisal
3.4. Professional Autonomy

4.Working with Others
4.1.Communication, Including ability to: Persuade, Motivate, Negotiate, Empathise, provide reassurance, Listen, Influence, and Empower (incl. Networking Skills and Presentation Skills)
4.2.Teamwork and Consultation
4.3.Interprofessional Education

5.Management, Strategy and Planning
5.1.Responding and Adapting Activities to Educational Needs
5.2.Utilising Resources
5.3.Maintaining Standards of Education
5.4.Managing Risk
5.5.Managing Performance in Educational Activities
5.6.Managing Projects
5.7.Managing Change
5.8.Strategic Planning
5.9.Working Across Boundaries (Profession/Sector/ Area)

6.Leadership
6.1. Strategic Context
6.2. Governance (Standards, Quality and Accountability)
6.3. Vision
6.4. Innovation
6.5. Education Service Development
6.6. Motivation

Alignment of Global Competence Framework for Educators and Trainers with FIP Development Goals

The FIP Development Goals (DGs) are a key resource in providing a comprehensive and supportive foundation for transforming the pharmacy profession over the next decade globally, regionally and locally. The FIP DGs align with FIP's overall mission to support global health by transforming the pharmacy profession via the advancement of pharmaceutical practice, sciences and education to achieve cohesion with wider global imperatives underpinned by the United Nations (UN) Sustainable Development Goals (SDGs) (FIP, 2022a).

The GCFE and DGs are inextricably linked to provide a clear and systematic framework for educators and trainers. The competencies from the GCFE can be utilised to achieve the DGs in a variety of settings including classrooms, faculties, institutions as well as within local or regional educational environments. Aligning the language of the frameworks to the Global Development Goals is important, and GCFE aligns to the following goals (FIP, 2021): DG 1 – Academic Capacity, DG 2 – Foundation Training, DG 3 – Quality Assurance, DG 4 – Advanced and Specialist Development, DG 5 – Competency Development, DG 6 – Leadership Development, DG 8 – Working with others and DG 9 – CPD Strategies.

Educators and trainers conduct education and training activities regularly. A sound educational plan allows for identification and development of academic capacity (DG 1) to realise effective and efficient education and training. To plan and prepare for an educational activity (GCFE cluster 1) in advance, ensures that all components involved in the activity are carefully considered and aligned with the availability and optimal utilisation of resources (GCFE cluster 5) and infrastructure.

Quality assurance (DG 3) in education and training is necessary throughout the planning and implement-tation process to ensure that students and learners receive appropriate, needs-based education. Aligning education and training with accreditation or certification standards will increase the quality of education, and ensure education and training is within the legislative framework and associated education policies (GCFE cluster 1) of the country.

The healthcare environment is dynamic and ever-changing as primary health evolves with increasing individualisation of patient care and medication development is prioritised for creation and delivery of new vaccines and medications. As such, the education and training of the global pharmacy workforce needs to engage in advanced and specialist development (DG 4)

to keep up with enhanced patient care and health system deliverables. Hence, in addition to maintaining education and training-based competence, certain areas of education may require specialisation (GCFE cluster 1) of educator and trainer professional development, among other things. Equally important is the need for specialisation of educators and trainers who facilitate the education and training of a specialised workforce through expert professional practice (GCFE cluster 3).

Educators and trainers should evolve to demonstrate and develop clinical and/or executive leadership (DG 6) by influencing and taking initiative in areas of the educational environment, such as in strategy, governance, developing vision, showcasing innovation or motivation. This aligns with the leadership characteristics (GCFE cluster 6) that are already exhibited through the process of planning, development and presentation of education and training.

In the capacity of educator or trainer, collaboration occurs (DG 8), whether they with colleagues, students, learners, managers, or other stakeholders. Through competencies such as becoming a role model (GCFE cluster 1) or participation in mentorship (GCFE cluster 1), better collaboration between people will occur. It is also important to use these competencies to foster the collaborative concepts of working with others (GCFE cluster 4) in multidisciplinary and interdisciplinary teams to bring together education and the context of practice (GCFE cluster 1), in order to ensure that students and learners have a sound reality of the practice setting which will advance integrated services (DG 7) with other healthcare professionals.

Achieving continuing professional development (DG 9) and showcasing personal growth is a key aim for educators. The GCPE encourages educators and trainers to constantly reflect, plan, learn, evaluate, apply and record their own learning (GCFE cluster 1). This is critical to ensure that the continuing education (GCFE cluster 1) and training provided by educators and trainers are aligned with the needs-based developments of the environment.

The rapid pace of transformation into a virtual world has highlighted the importance of cultural competence, awareness, sensitivity and diversity amongst colleagues and students in the education environment. Education and training must adopt and be flexible around diversity, showing cultural awareness and responsiveness (GCFE cluster 1) while ensuring equity and equality (DG 10) in terms of access to education. It is critical for the educator and trainer to not only facilitate this adoption but monitor and over its implementation throughout the educational environment.

Educators and trainers should be orientated towards research, evaluation and scholarship (GCFE cluster 2). Research activities such as critically evaluating evidence, identifying gaps, developing research protocols, gathering and analysing evidence or data and implementing outcomes into education and training practices, could be conducted in the capacity of either the researcher, mentor or supervisor. Further development of research partnerships and collaborations with other institutions, countries or regions will also uplift the provision of education and training to the pharmaceutical workforce. Not only is evidence-based data needed through research, but it is also crucial in demonstrating and measuring impact and outcome (DG 11).

Educational and research component of the GCFE

A global framework is beneficial in research. Developing a global framework allows the development of a transparent and evidence-based national framework with various research methods to meet varying national and local needs (Al-Haqan *et al*., 2021).

A global framework provides proxy indicators of competencies required for effective performance of the pharmaceutical workforce. A questionnaire adapting a global framework can assist in identifying the relevance and applicability of the framework in a specific national and local setting (Alfaifi, Arakawa, & Bridges, 2021; Arakawa *et al*., 2020). This will enable researchers in recognising particular competencies and behavioural indicators for modification along with the national and local setting. A global framework can be also used in the consensus development methods to develop national and local frameworks (Arakawa & Bader, 2021).

A framework can be used to evaluate the effectiveness of the workforce development. Investigating trends of aggregated data of competency development using the framework will be a beneficial educational research topic to assist optimising the workforce development plan and educational activities for educator development.

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