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Commentary

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Informal and Non-Formal Faculty Development in Emergency Medicine: What Does It Take to Uplift Recognition

Fatimah Lateef*

*Senior Consultant, Dept of Emergency Medicine, Singapore General Hospital.

***Correspondence:**
Fatimah Lateef, FRCS (A&E), MBBS, FAMS (Em Med), Senior Consultant, Dept of Emergency Medicine, Singapore General Hospital; Core Faculty, Emergency Medicine Residency, SingHealth Professor, Duke NUS Graduate Medical School, Yong Loo Lin School of Medicine, National University of Singapore and Lee Kong Chian Medical School, Nanyang Technological University; Director, SingHealth Duke NUS Institute of Medical Simulation (SIMS), Faculty, Duke NUS Global Health Institute.
Email: fatimah.abd.lateef@singhealth.com.sg

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Abstract

Lifelong learning is synonymous with the practice of Medicine, including the extremely robust, complex and everchanging specialty of Emergency medicine. The spectrum of educational offerings for faculty has also increased exponentially with very wide range of training, courses and teachings, spanning the formal, informal and non-formal educational categories. Faculty development is a fundamental and essential part of the practice of Emergency Medicine (EM). This comes alongside the multitude of challenges facing faculty today in the execution of their many roles: the need for high quality service in the practice of EM, output in terms of scholarly activities, personal growth and development as well as striving to attain work-life balance. There are also many factors that can affect or influence faculty development such as temporal factors, personal factors, environmental factors, key roles they play, as well as social relationships. Against this background, EM faculty must fit in formal, informal as well as non-formal learning activities, according to what suits them the best. How can we uplift awareness and recognition of the informal and non-formal offerings? What steps can an Emergency Physician as well as the institution take, to start the process of recognition? How do we engage employers, faculty and other staff to jump onto this bandwagon appropriately and make the relevant, acceptable choices? The author shares her perspective on this new and evolving, but extremely important area. Afterall, some 90% of what we learn are acquired from the informal and non-formal educational contexts.

Keywords: informal learning, non-formal learning, faculty development, emergency medicine

Introduction

Faculty development and career-long or lifelong learning is part and parcel of the practice of Emergency Medicine (EM). This is essential especially to keep abreast of the changes and developments of the specialty. At the same time, it is important to have faculty who are very current and updated in their knowledge, skills and competencies, as these represent some of the key performance indicators (KPIs) for high performance institutions.[1-3] These areas have expanded and grown very rapidly, globally. Requirements and guidelines are getting more comprehensive and strict, in order to meet the needs of regulatory bodies and licensure within each country or jurisdiction as well as to ensure the delivery of high quality, up to date, evidence-based emergency services in healthcare.[4-6] Alongside this, the area of less formal learning has expanded, becoming more readily accessible, ubiquitous, straddling various learning contexts, models and environment.[7-9] There are also a multitude of challenges facing faculty today in the execution of their many roles: the need for high quality service in the practice of EM, output in terms of scholarly activities, personal growth and development as well as striving to attain work-life balance. There are also many factors that can affect or influence faculty development; temporal factors, personal factors, environmental factors, key roles they play, as well as social relationships. Against this background, EM faculty must fit in formal, informal as well as non-formal learning activities, according to what suits them the best. Faculty development is all about adult learning; self-initiated, autonomous and self-directed. Thus, with options available under informal and non-formal learning today, faculty can be involved in self-seeking, self-planning, self-recording and creating their personalised education portfolio.[3,10-13]

Formal, Informal and Non-Formal Learning in Faculty Development

EM faculty today have a wider range of choices in fulfilling their learning arrangements. Formal learning is well defined and fits nicely into the EM curriculum, framework of practice as well as models that focus on organized learning. For formal learning

activities, there may be less flexibility in view that these are often stipulated by the department, institution or some national certification body. Formal learning takes place in an organized and structured fashion. They are specifically designed as learning activities with clear objectives, time frame as well as dedicated resources. This type of faculty development education is for the acquisition of knowledge, skills and relevant competencies. Often, these are within an educational system, linked to an institution.[14-17]

Table 1: Comparison of formal, informal and non-formal education

Formal Faculty Development Education	Informal faculty Development Education	Non-Formal faculty Development Education
Can be face-to-face, virtual or hybrid	Can be face-to-face, virtual or hybrid	Can be face-to-face, virtual or hybrid
Have set curriculum, objectives, time and competencies to be achieved. These are structured by Specialty	This is unintentional, "by the way" and has no fixed curriculum or agenda usually. It is also non-structured Learning complements formal education.	The participation is intentional but the learning obtained is not. Learning complements formal education and may be structured
Planned training in organization or institution. Learning is through direct teaching behaviours	Independent learning, more ad hoc. In everyday learning at work or anywhere. E.g. corridor conversations, reading articles or non-medical books or watching a movie	May be planned. Wide spectrum of organizers. May be part of extracurricular training
Involves certification, qualification, licensure or professional recognition	No certification or qualification stipulated or recognized	No certification or Generic recognition. Open market, but may come with some qualifications.
Involves grades	Non-measurable, subjective	Self-evaluation usually
Training with teachers, mentors, trainers	More self-directed	Immersive, participative
Time conditioned	Free flow	Adaptive
Often mandatory and compulsory	Self or informally initiated	Active participation
Involves Quality Assurance (QA) Mechanism	No QA usually	Some may have QA
Motivation for learning is extrinsic (external rewards, degree, certification)	Intrinsic motivation	Intrinsic motivation
Learning has a mandated dimension, with cognitive emphasis	Learning is flexible with voluntary dimension. Learning may involve cognitive, social and behavioural elements	Learning is flexible with voluntary dimension. Learning may involve cognitive, social and behavioural elements
Usually involves a linear progression	Not necessary to have progression or order. More flexible	Not necessary to have linear progression. More flexible
Not linked to socialization	Often linked to socialization	Often linked to socialization

In this similar context, formal learning in EM faculty development helps to refine, regulate as well as set the directions clearly, with specific milestones and entrusted professional requirements. The formal education content must be updated and reviewed to meet the changing demands, standards and evidences that have surfaced. It also has well established evaluation and assessment methodologies.[17, 18]

Informal learning results from the day to day work related activities and activities with family or for leisure. This type of learning is not structured in terms of the goals, time or learning support. It is unintentional. Sometimes this is called opportunistic learning. They are not formally organized and tend to be spontaneous. The learning can occur anywhere and at any time, which means it can be situational.[18-21] Despite being non/ less structured, less organized and less systematic, it accounts for most of any person's lifetime learning. In fact, it is often stated that greater than 90% of learning is informal learning. The learning may be largely unseen or 'invisible' and thus remain un-noticed by the learner. It tends to be more subconscious. This may then result in the learner lacking awareness of their own learning, but when it comes to application and responding to certain situations, they are able to utilize and execute what they have learnt informally.[21-23] **(Tables 1 and 2)**

Table 2: Examples of informal and non-formal learning

Examples of Informal and Non-Formal Learning
• Job shadowing colleagues, seniors and mentors
• Peer learning and mentoring
• Ward rounds, grand rounds, case discussions
• Journal clubs
• Peer review sessions
• Informal "corridor consultations"
• Inter-professional team meetings
• Professional social medial groups
• Communities of practice
• Reflective practice
• Quality improvement initiatives
• Seminars, workshops, conferences
• Joining professional associations
• Research, collaborative research
• Simulation exercises and activities
• Networking, round table sessions
• Shift cards inputs (at the end of shift)
• "Case of the day" discussions
• Questioning and quizzing
• Role modelling
• Communications strategies
• Cooperative, inter-professional learning
• Others

Non-formal learning for faculty development on the other hand refers to learning embedded in planned activities which are not explicitly planned as a learning or educational activity. It is thus more organized and systematic, but lies outside of the formal education system framework (i.e. it is outside of the compulsory educational provisions). This type of learning is intermediate between formal and informal learning (hybrid model) and encompasses a very wide spectrum of learning activities.[9,11,14] Participation in these activities is intentional but the non-formal learning that happens, is not. The defining characteristic of non-formal education is that it is an addition/ alternative or a complement to formal education and learning, within the lifelong learning journey of a faculty. These non-formal educational

activities can help to expand and extend the more established formal formats of faculty development. It tends to serve what is not covered by the formal system. It can also encourage social inclusion by targeting those who fall outside some standardised set criteria. Non-formal education can indeed supplement both formal and informal workplace education. A lot of very valuable learning can take place both in the informal and non-formal settings. These tend to be more flexible, have modular arrangements and provide some degree of freedom in the choice of content. It certainly shifts education from the "institutionalized control" over knowledge, to an "individualized control" one which is more self-directed.[24-26]

There are of course many factors that affect informal and non-formal learning amongst Emergency Physicians (EP). Willingness and personal motivations are key. The ability to evaluate one's own personal experiences, capabilities, readiness to learn from colleagues and the proactive use of feedback to initiate change and uplift performance are important. At the same time considerations on the availability of resources (e.g. time, funding, the learning infrastructure, virtual or online options) and the recognition given by the institution/ employers (e.g. inclusion into Continuing Education credits programmes) are highly relevant.[27-29] The evolving role of EM educators, the sense of trust and belonging, adaptability as well as the socialization process of some of these programmes are also factors that must be taken into account.[1, 30]

Whichever combination or permutation of educational activities is undertaken, the bottom line is that the key performance indicators (KPIs) for an EP must be met, especially in the professional context[1,3]:

i. A good EM practitioner

ii. A good educator, who is competent and effective

iii. A good researcher and innovator, as well as

iv. A good role model and mentor

These KPIs are not exclusive and comes with some degree of customization and flexibility, depending on the spectrum of practice of each individual faculty. This can also align with the concept of "Clinician +" (where the faculty can be Clinician-Educator, Clinician-Scientist, Clinician-Innovator, etc)[31]

The Recognition and Assessment: What it Takes

As the spectrum of informal and non-formal learning is so varied and wide, not many institutions have published frameworks or policies on their recognition. The systems that currently recognize informal and non-formal learning are mostly not fully matured, stable, or sustainable. This is still a space to be monitored for further developments. This is different from formal educational requirements where institutions have established formats, curriculum, electives and modules for credit acquisition and certification. However, in view that the informal and non-formal educational offerings are widely available, attractive and with valuable learning, **(Tables 2 and 3)** it is becoming imperative that some framework of recognition, with flexibility, should be available.[7, 20, 22] Moreover, with the spread of online, distance and virtual learning, the choices are even wider. Thus, more EM faculty are jumping on the bandwagon of informal and non-formal education, to strengthen their capabilities and capacity as well as pursue their interests.[3, 10]

Table 3: Examples of informal workplace learning for emergency physicians

Examples of Informal Workplace Learning for Emergency Physicians
• On-shift learning and supervision • Management of patient load upsurge • Management of manpower and manpower distribution/ reorganization on shift • Handling and negotiating clinical pathways and workflows on the job on a day to day basis • Management with inter-professional teams • Inter-professional communications and interaction • Handling interruptions which happens often in the ED • Handling crises which may arise, including mass casualty incidents

Some of the factors for organizations and institutions to take into account in initiating and reviewing recognition for informal and non-formal education include[4,7,12,19,29,32,33,34]:

a. Recognition will give greater visibility and acceptance of informal and non-formal learning.

b. Recognition will help publicise that informal and non-formal learning potentially has good educational value.

c. The recognition of both informal and non-formal learning can help to strengthen formal education and learning. There may be some degree of synergism, in potentiating each other.

d. Communicating more on the recognition of informal and non-formal learning can help create greater awareness of the various options and create an identity for this form of learning.

e. Faculty can use the platform to upgrade and uplift themselves or plan their own self-assessment and educational journey.

f. Recognition will enable more informal and non-formal education to be incorporated in faculty development training and courses. They can also be integrated to complement formal education curriculum.

g. Quality assurance procedures to be applied to courses and training in informal and non-formal education.

h. Standardization of the qualifications required and the learning outcomes will be very useful as well.

i. Appointment of local mentors, evaluators and assessors.

With the expansive amount of materials and offerings in the informal and non-formal learning space, the research that needs to be conducted prior to granting recognition can be complex and elaborate. This will require strong commitment in the undertaking. Reviewing the organizers, content and curriculum of the learning activities and materials is necessary prior to embarking on recognition. Having full control over the learning process itself can be very challenging. Therefore, some allowances and degree of flexibility is necessary. Just like in formal education, the assessment of some of these activities and training must ensure that:

A. There is validity, i.e. learners will possess the necessary knowledge, skills and competences and be able to carry out the corresponding tasks proficiently.

B. There is transparency at the necessary points and

C. Reliability is upheld, i.e. the assessment and processes administered under varying circumstances will yield the same results.

Even with all these considerations, it must be realized that there will still be many informal and non-formal educational offerings which cannot be pigeon-holed into categories or meet some of the requirements, but they remain relevant to work, life and growth of the individual EP.[11,13,34,35]

Strategies for Emergency Physicians

For EM faculty, the journey towards recognition can commence with grouping together like-minded EPs and starting a grounds-up initiative. They can also surface these agenda in faculty discussions, peer-review sessions of the department as well as during personal appraisals with their mentors and bosses. Linking the benefits to professional requirements and development can be useful as well. EPs can:

i. Document and quantify their involvement in informal and non-formal educational activities. They can show the relevance as well as demonstrate how these can align with institution's objectives and direction or contribute towards uplifting knowledge and skills. Setting up a directory of these offerings and qualifications can be a starting point.

ii. Share and highlight specific examples and positive outcomes they have experienced. They can also showcase how these learning help link work and training.

iii. Garner support from peers for 'peer advocacy'. There can be value in increasing the numbers of EPs involved, in reaching a critical mass.

iv. Involve and invite leadership to their discussions to help create awareness and get buy-in.

v. Start some pilot initiatives for several more popular activities first before progressing to more programmes and full recognition.

Table 4: Suggested Framework to Assess Informal and Nonformal Educational Offerings

Suggested Framework to Assess Informal and Nonformal Educational Offerings
The following categories can be useful and customized towards different specialties: a. The Learning Needs b. The Target or Focused Learners c. Nature of the Course or Training and the Objectives d. The Content and Structure offered e. Educational Methodologies f. Instruction and Delivery g. Assessment h. Evaluation and Follow up **Note: For reviewing non-formal and informal educational activities, some may approach it in a "less rigid, more flexibility" fashion, compared to formal educational offerings**

One practical way to handle the multitude of faculty development courses, training and activities on offer, is to categorize them under broad groups. For example, there can be "competency-based framework" model for EPs, where programmes and courses which are popular, of a high standard and meet the requirements set by the institution can be listed. Faculty can then use such categories to look for appropriate informal or non-formal faculty development training and activities with some degree of systematicity. They can then select the various options or combination that suit their needs. Some examples of these competencies related areas or domains include: Clinical expertise and training, Leadership, Communications, Innovation and Inter-professional Collaborative Practice, Scientist/ Research/ Scholarly Activities and Advocacy. There are also many other newer domains such as Artificial Intelligence and Technology-Enhanced Learning in Emergency Medicine. It is also useful to have a Framework when conducting assessment of these educational activities. A suggested Framework is in **Table 4**. The various headings and categories help to align the approach by reviewers. If there is a need for further standardization, a checklist of items can be provided under each of the heading or categories.

Examples of Initiatives to facilitate and Recognize Informal/ Non-Formal Learning

These are some examples of initiatives in Singapore which helps to uplift and provide some degree of recognition to informal and non-formal learning:

a. Doctors are allowed to accumulate continuing medical education (CME) credits for reading certain journal articles and then completing some multiple-choice questions. This is possible for a range of selected/ recommended journals, the list of which has been gradually expanded. These CME credits are compulsory for doctors to accumulate to reach a certain threshold in order to renew their practicing certificates every two years. Many of these journal readings are not linked to the physicians' specialty and they are able to do this in their own time, electronically. The maximum number of points allowed under this special category has a cap as well, but it does help physicians meet their total requirements.

b. For faculty who volunteer to mentor medical students at the National University of Singapore (NUS), Yong Loo Lin Medical School, in a longitudinal fashion; from their third year right up to their final year, educational points are given in recognition for this. These educational points contribute towards their contribution to NUS and is recognized in their academic appointments e.g. clinical lecturer, assistant, associate and full professorships. These are informal interactive sessions the faculty have with the allocated students to mentor, nurture and share with them on a variety of topics outside just academics.

c. At Singapore General Hospital and SingHealth, faculty are provided with Professional Development Leave annually. The number of days is based on their seniority; e.g. a senior consultant in EM will have a total of 18 calendar days annually to attend some form of training, courses, seminars, conferences, upgrading in skills etc. The spectrum available is wide ranging and may even be outside EM. This is done with a view to faculty development.

These are some examples of recognition given to a spectrum of informal/ non-formal learning and educational activities which faculty can select to attend for their growth and development. There is a degree of flexibility with these offerings compared to the formal learning and curriculum which is compulsory.

Faculty Development for Emergency Physicians: The Informal and Non-Formal

Some examples of informal and non-formal learning for EPs are listed in **Tables 2 and 3**. This is certainly not an exhaustive list and there are many more permutations and combination as well as hybrid offerings. This makes the domain exciting and refreshing, as there are always new choices, integrated courses and up to date options. Some are also linked to new developments such as in the domain of Artificial Intelligence (AI) and new technology (e.g. virtual reality, augmented reality, Extended reality, serious gaming). Moreover, many of the offerings are available electronically and online. This makes a difference as the faculty may be able to access these on an "anytime, anywhere "basis and it helps them negotiate their already packed work schedules. This way they can access these activities from home and may be able to balance their family and work timings better. There is an increasing demand and interest in these activities and they are popular especially with the younger generation faculty, who are very mobile and technology-savvy. The important thing is also these many of these technologies linked activities are eligible for recognition in different domains and platforms, in the various departments.

A substantial portion of an EP's learning comes from workplace-based involvement, on the job training and immersion. These can be integrated into the area of work. This is relevant as much learning is stimulated out of the workplace context, followed by review and reflection. These do indeed provide powerful learning experiences.[1,3,36]

Billett S shared the 4 important principles of workplace-based learning[32]:

A. Reflective engagement with workplace experience
B. Active engagement linked to prior knowledge (of adult learners)
C. Individual meaning making, and
D. The resultant changes in workplace practice

All these emphasize the intentional focus on learning through work involvement and immersion, which is highly relevant for EPs. A significant amount of learning happens in the ED and there are many 'teachable' and 'learnable' moments. (Table 3)[12,22,26,34-36] It is thus imperative to build a system that supports EM faculty in connecting, networking and learning from one another, through opportunities for informal learning. These are rich learning experiences, not available from textbooks. Implicit informal learning such as learning how to coordinate the ED on a shift, how to handle patient upsurges and how to manage manpower shortages or mobilise manpower dynamically are often not documented as learning activities. Learning through crises and uncertainties are also very powerful experiential learning, which mostly are informal or non-formal. Learning from unstable events and situations are also very useful and may test faculty's imagination and innovativeness. These are not subjected to design control by both faculty and learners. However, these are significant and unique learning opportunities to nurture leaders and experienced EPs. This type of learning grows the social contract between staff and forms part of a socio-reflective learning cycle. People interact around their common interest and they learn and share as well as pass the knowledge and information on to each other. It is like the concept of a learning circle. The experiential handling of such challenging situations are valuable lessons for the juniors and residents to learn from. They may also be part of the "hidden curriculum".[35,37-41] The hidden curriculum is not one written in black and white. It refers to the spectrum of norms, behaviour, values and culture that is "transmitted subconsciously" through interactions, mentoring, supervision or other educational activities, which may not be apparent or overt. This is significant in terms of nurturing colleagues and the next generation of learners that faculty are involved in teaching.[38,41]

Marsick and Volpe shared that the characteristics of informal learning include[45]:

a. They are integrated into daily outcomes
b. They can be triggered by both internal and external jolts, stimulus or experiences
c. They are not highly conscious events and thus most often, subconscious
d. They can be haphazard and thus, be influenced by chance
e. They will involve the process of reflection and also action
f. They are closely linked to the learning of others that the faculty interact with.

One can also easily conclude that these experiences are not standardized and are extremely variable.[46] It may vary across different faculty, with different levels of awareness and experience, as well as across different EDs, depending on the focus, culture and structure of the department. This also means the informal and non-formal learning opportunities will vary. The teaching quality and learning outcomes will similarly also be different. This represent the challenge of informal learning.[1,2,4,19,29,43] Some of the other challenges include uncertainties in the educational methodologies utilized as well as variations in the spectrum of quality of the educational materials, training and courses.[47,48]

The following are further barriers towards recognition:

Institutional Factors	Staff/ Personnel Factors	Programme Factors
• Too much effort and time requirement needed, with an already busy formal curriculum • Lack of dedicated time • Lack of awareness by leadership and bosses • Not linked to promotion or awards	• Lack of awareness and thus, manifested as lack of interest. Therefore, the need to share and create understanding of informal/ non-formal educational offerings •Challenges in time commitment and work-life balance • Mindset • Differing views and focus on education	• Variable quality • Wide range of educational methodologies will need to be carefully assessed first • Not evidence-based or up to date • Not based on accepted international guidelines/ standards

Recognition is the acknowledgement of the validity and genuineness of the educational activities. It also helps ensure certain standards are met. This also means for recognition the educational activities must achieve specific learning goals/ outcomes and competency standards. In the process of gaining recognition, there must be:

1. Acceptance of certain informal learning as credit towards formal learning. This is a challenging step as effort need to be put in to assess, validate and evaluate the offerings.

2. Acknowledgement that informal learning/ non-formal learning adds value.

3. Some way to assess that learning has taken place and self-knowledge and recognition is crucial.

Discussion

EPs are medical experts providing first line and emergency care. Their skills in clinical work, professionalism, communications, interprofessional collaboration and advocacy are critical, everchanging and evolving. Continuing education and faculty development is part and parcel of their comprehensive growth and development. The current day EP practicing in an academic or teaching institution will have to fulfil the following roles:

A. Patient care duties and clinical work.
B. Teaching and supervising juniors and residents.
C. Managing time targets and patient flow in the ED and
D. Communicating and collaborating with patient care teams and interprofessional groups in provision of holistic, and comprehensive emergency care.

On the job and workplace immersion training is critical and forms a large proportion of an EPs learning. Time pressure and high demand for service provision on the ED floor is often interpreted as a lack of education and teaching support. However, there is a need to reconfigure the mindset of staff and residents, as much of the informal and non-formal learning they need is going on all the time in the complex environment of the ED. There is a need to see this through a different lens, in order to "increase the pleasure and purpose of learning and teaching" In fact in the ED, there is teaching and learning, all day and night.

Conclusion

In summary to move on with recognition of informal and non-formal learning for EP faculty development, the following is a proposed checklist for starters:

1. To create the awareness of the informal/ non-formal teaching/ learning activities available to EPs.

2. To understand and acknowledge the spectrum of such educational offerings.

3. The collaborative commitment and will of the leadership, faculty and learners in EM, in initiating the recognition process is fundamental.

4. Adequate research, assessment and appraisal of the materials, courses and training opportunities available under this domain, suitable for recognition of EPs faculty development.

5. To come up with an initial pilot of proposed framework or guidelines, which can be left as an open document; to be supplemented as needed in view of the very robust and dynamic development in this area, and

6. Continue to strengthen the network of support and camaraderie within the ED for workplace-based education.

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