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EDUCATIONAL RESEARCHER. Entrepreneur, Manual Worker, and Knowledger?

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Abstract:

In today's societies, educational researchers play a leading role not only in the production of knowledge but also in the development of human capital. However, their social commitment is much greater than institutional work because they face challenges in acting as entrepreneurs, manual workers, and knowledge workers (also known as technologists or knowledge workers), as these are part of the professional practices appropriate to the current era. Drucker (2008) disagrees with the terms "knowledge worker" and "knowledge worker," but recognizes their conceptual importance today. From his perspective, "technologist" is the most pertinent term to refer to researchers in all fields of science.

This paper prioritizes educational researchers because the professional practices they develop must be classified into six groups: Original, Normative, Institutionalized, Professional, Training, and Emerging (García, 2021).

Keywords: entrepreneur, knowledge worker, technologist, educational researcher, and professional practices

Introduction:

This paper reflects on the characteristic features surrounding acting as an entrepreneur, acting as a knowledge worker, and acting as a knowledge worker. These actions are part of the professional practices of educational researchers and are part of the group known as Emerging, because they are actions consistent with this historical period.

The questions to be answered regarding educational researchers are the following: What are the professional practices that educational researchers must carry out inside and outside the institution where they work? What is the context that drives educational researchers to act as entrepreneurs, manual workers, and knowledge workers? And why are the challenges and obstacles greater for educational researchers in exercising professional practices that are not classified as Normative?

Based on the sources consulted, the qualitative research conducted is theoretical, critically analytical, with an interpretive approach, and focused on the educational researcher as an educational, social, and intellectual actor. The focus of analysis is three actions appropriate to the current era. It is important to clarify that previous published works have outlined general guidelines on the professional practices of educational researchers. This time, in addition to delving into the distinctive features of the three modes of action of the current educational researcher, new reflections are also incorporated, and it is affirmed that these are part of the professional practices carried out by the group of educational researchers interviewed by García (2023).

The sections of the work are: Conceptual Clarifications, Contemporary Societies, Acting as an Entrepreneur, Acting as a Knowledge Worker, Acting as a Manual Worker, Professional Practices of the Educational Researcher, and Personal Positions.

Conceptual Clarifications

Before presenting the characteristic features of the entrepreneur, manual worker, and knowledge worker, the meaning of the expressions notion, spirit of the times, educational researcher, and professional practices is described. All are considered the watershed and interpretive foundations of this work.

Notion is a concept that refers to a special phase of evolution of thought within the entire human trajectory. Due to its historicity, it has a true value and meaning (Hegel, 1974). However, it is also under continuous construction due to the horizons of knowledge explored and gained by interpreting the world and oneself.

Spirit of the times is the interpretation of the two words that make up the German term "Zeitgeist"—the spirit (Geist) of the time (Zeit)—and refers to the intellectual and cultural climate that characterizes a historical period (Wikipedia). In this work, the spirit of our times is defined by post-industrial, knowledge-based, and information-based societies. The network society is another type of society that characterizes today's societies; it will be discussed in a subsequent work.

Educational researcher is a concept referring to a person who, in addition to having received the title of educational researcher, carries out research on a daily basis, periodically reporting on the results obtained (García, 2012).

From García's perspective (2015), educational researchers have lost their exclusivity within educational institutions due to the excessive positivity of today's societies.

Professional practice is understood as the actions and functions assigned by state and/or federal authorities upon the creation of an educational institution, primarily those at the higher and postgraduate levels in Mexico (García, 2017). It also refers to the set of actions carried out by educational actors when conducting educational research within and outside the institution where they work.

Societies of the Present Era

Acting as an entrepreneur, manual worker, and knowledge worker are actions consistent with the spirit of the current historical era and are directly rooted in the following theories: Post-Industrial Society, Knowledge Society, and Information Society. The main aspects of these theories are described below.

a) Post-Industrial Society or Third Wave Era

This type of society has been in existence for over forty years in developed countries such as the United States of America (Amador, 2008). Authors such as Amador (2008), Ferreira and Sena (1976), Guerrero (2005), García (2009) and Toffler (1993) agree that the main features include the following:

1. This type of society began to emerge more than forty years ago in developed countries such as the United States of America (Amador, 2008). Authors such as Amador (2008), Ferreira and Sena (1976), Guerrero (2005), García (2009) and Toffler (1993) agree in pointing out that the main features include the following:
1. Monopoly of economic markets.
2. Control and management of finances.
3. Expansion of information and communication technologies on a global scale.
4. Employees are not involved in the production of tangible goods.
5. Growth of the service sector and information technologies.
6. The economy's main raw materials: information, knowledge, and creativity.
7. Population longevity due to decreased birth and death rates.
8. Greater reproductive efficiency that reduces reproductive labor.
9. Dimensions covered: economic, occupational distribution, centrality of theoretical knowledge, future orientation based on the control of technology, and decisions guided by intellectual technology.
10. Emergence of non-nuclear lifestyles.
11. Increase in home-based work and family expansion through digital means.
12. Emergence of intelligent digital environments in all areas of life.
13. The predominance of positive personal attitudes.

For Toffler (1993), humanity has gone through three waves. The first began around 8000 BC and ended in the 1650s, and is characterized by the agricultural revolution. The second began approximately in the 1650s with the industrial revolution, also known as the scientific and technical revolution, and is characterized not only by changes in the way machinery is produced, but also in the organization of the world. The third began 40 years ago due to the thriving presence of information and communication technologies, the knowledge society, and the Internet.

b) Knowledge society, knowledge society, or knowledge capitalism

It is understood as a set of social, cultural, and economic transformations in support of sustainable development. Its pillars are: access to information for all, freedom of expression, and linguistic diversity (UNESCO, 2005), and it began after the Second World War in developed countries. The concept was coined in the United States, making it the prototype country for this society.

Some of its characteristics are (Krüger, 2006):

1. Knowledge: the most important factor of production, it promises a more balanced and just society.
2. Projection of a future with fewer social injustices.
3. Denying access to information and knowledge means exclusion.
4. Digital generational divide.
5. Replacement of other forms of knowledge by science.
6. Transformation of power structures and dominant sources.
7. Growing awareness of ignorance, uncertainties, and insecurities.
8. Reflection and review of general and expert knowledge.
9. Debates about society's rules and assumptions.
10. Doubt and erosion of generalized, regulatory, and homogenized structures.
11. Development of new rules.

c) Information society or information age

In Mexico, the era began in the 1980s with the boom in ICTs in education, although in some provinces its peak was observed in the early 2000s. Information is the basic element of communication deferred by time (asynchronous) and generated by access to technologies (ubiquitous), and is being replaced by the knowledge society (Krüger, 2006).

Among its characteristics are (Amador, 2008):

1. Emergence of an educated public seeking access to knowledge.
2. A society subordinated to principles rooted in citizen control, the dissemination of futilities, sensationalism, and deceptive propaganda.
3. It is based on information technology, telecommunications networks, and technological innovation.
4. Social, economic, and cultural gaps have been narrowed by ICTs. 5. The central themes are: networked computers.
5. Technological determinism is the theoretical foundation.
6. The relevant sectors are: education, media, information management, IT services, and technological research.

Acting as an Entrepreneur

This person is hired to fulfill the social role of "advancing innovations, seeking new businesses, and creating new markets and new customers." Altarejos (1999) makes this statement based on the following elements: specialized and sophisticated performance derived from learning and comprehensive training that contributes to the predisposition to execute innovative actions, their motivations, and the execution and achievements of the actions implemented in the innovation.

For Drucker (1992), learning, motives, and achievements are the stages that determine the entrepreneurial action of the knowledge worker and are the structure of management theory. Regarding learning, the seven sources of knowledge that the entrepreneur must leverage to implement innovation are classified as follows: four are found within the organization, and the remaining are external sources from markets and industries. The seven sources of knowledge that characterize learning are: the unexpected, the incongruous, the need for a process, changes in industrial or market structure, demographics, changes in perceptions, trends and meanings, and new knowledge.

The universal principles that guide entrepreneurial motivation—the practice of entrepreneurship—generally rely on elements of how to manage, that is, to handle, understand, and effectively implement the actions of innovative entrepreneurs in the business world. However, to be successful, their actions also require knowing how to be entrepreneurs and how to innovate. This weakness has made management theory a fascinating subject that requires further study.

The achievements of entrepreneurs are strictly related to the following aspects: winning new customers and new markets, maintaining profitable businesses, and improving productivity.

Acting as a knowledge worker

It is a generator of knowledge, and its action is aimed at making it the ultimate source of economic wealth, as stated by Drucker (2001). He also points out that once knowledge is generated, entrepreneurs are responsible for making it a reality and obtaining benefits of various kinds: monetary, cultural, technological, business, etc. Continuing with the author, the factors that define the effectiveness of knowledge workers are:

1. They must have a thorough understanding of what they do in their work;
2. They must manage themselves or self-manage;
3. They must maintain a high level of scientific and technological independence and autonomy;
4. Innovation is a vital part of their daily work;
5. They must maintain levels of continuous learning;
6. Their evaluations respond to feedback processes with their superiors, with their peers at the same hierarchical level, and with other agents outside the organizations with whom they interact;
7. They care more about quality, since the resource they generate is intangible and its measurement does not respond to traditional parameters;
8. Knowledge workers must be treated from the perspective of an "asset" that generates returns, rather than from the perspective of a generator of expenses.

Acting as a manual worker

Innovation as a result of the application of knowledge is practical knowledge, generally derived from the application of a new technology (Altarejos, 1999). This fact generates a distinction between theoretical knowledge and practical knowledge. The former operates through reason, while the latter contains what it knows within itself. Experimentation links both forms of knowledge and is part of practical knowledge. Hence, the experience of action is a constitutive, essential, and permanent element in knowledge work and technology.

Manual workers are generally attributed a negative meaning because they are associated with the role of executor—applier—because their actions are rooted in a sense of the pragmatic, and they are generally employees in factories and industries. It is thought that this type of worker lacks awareness of what they do and that their actions are repetitive and lack a dynamic, open, and flexible sense. They are not professionals and lack the training to perform the actions requested of them.

However, understanding the processes, witnessing experiences of success and failure, and being aware of the results and actions taken by knowledge workers and entrepreneurs to solve problems make them essential workers, endowed with tacit knowledge that is difficult to acquire.

From Drucker's perspective (2008), Taylor is the first researcher to demonstrate that manual labor is not based on technique but on knowledge of the job. The methodology known as "Task Analysis" or "Task Management" aims to increase the manual worker's production level. Its principles are as follows:

1. Examine the tasks performed.
2. Record each movement, the physical effort required, and the time it takes.
3. Eliminate unnecessary movements.
4. Recognize that traditional procedures, in some cases, are useless and add nothing.
5. Select the actions that are essential for obtaining the finished product in a simple, easy manner,

with the least physical and mental effort for the operator, and in the manner that requires the least effort.

6. Redesign of the tools needed to perform the movements.

The problem that characterized this type of worker before and after World War II was financial compensation. This compensation was limited to their results, not their contribution to solving problems that diminished their results.

The experience of manual workers, understood as people hired to perform simple movements to achieve satisfactory results in a company, has been undervalued by employers, but also by the workers themselves. Despite the limitations and shortcomings of this type of work, they possess tacit knowledge obtained from everyday practice, not from technical knowledge.

This tacit knowledge has generally not been documented, but those who have have achieved unprecedented successes. Among them are: Hitler, who created magnificent combat machines in the six short years between his rise to power and 1939, and Ford's principles of industrial workforce training (Drucker, 2008).

The future of global labor productivity lies not in challenging manual labor to become more productive, as this is already known, Drucker asserts, but in getting manual workers to share their tacit knowledge with new employees, so that, once it becomes explicit knowledge, its management has no limits.

Professional Practices

García's (2021) proposal on the professional practices of educational researchers is described below. She classifies them into six groups and names them according to the needs and interests of the historical period in which they emerged. The most relevant aspects are presented in the following table.

Table 1: Professional Practices of Educational Researchers

Group	Name	Carácter	Modelo	Contexto
1	Original	Mandatory	Deber-hacer y deber-ser	Renaissance Society
2	Regulations			Industrial Society
3	Institutionalized	Honorary	Power-to-do	Transition from Industrial Society to Post-Industrial Society
4	Ex officio		and	
5	For training			Post-Industrial Society
6	Emerging		Power-to-be	Renaissance Society

Note: García has renamed groups 1, 4, and 5.

Source: García, M. D. (2021). Educational Researcher's Professional Practices at the Postgraduate Level. Journal of Modern Education Review, ISSN 2155-7993, USA, January 2021, Volume 11, No. 1, pp. 69–77. Doi: 10.15341/jmer(2155-7993)/01.11.2021/010

The characteristic actions of the professional practices of educational researchers proposed by García (2021) are presented in the following table.

Table 2: Actions on the professional practices of educational researchers

Name	Characteristics	Scope
Original	It emerged in Renaissance society (Heller, 1980). It was initially carried out by scientists or researchers in the hard sciences, hired under specific requirements and with an allocated budget.	Applicable at the personal and collective levels.
Regulation	They have legal backing and are included in agreements for the creation and transformation of educational institutions and research centers. They have a financial ceiling, are regulated and controlled by administrative and bureaucratic rationale, and are subject to evaluation and accountability.	Workplace institutions
Institutionalized	It emerged with the institutionalization of Mexican educational research, mately in the 1980s. They lack a legal and administrative structure and a and are exempt from planning, monitoring, or evaluation.	Networks, councils, research associations
Ex officio	Also known as the actions carried out by the Agent of Educational Research, they are characterized by having a dual impact on constructed knowledge: enriching the thematic field and transforming the researcher. Not all the functions and actions of scientific and research communities manage to transcend the status of research agent, for multiple reasons, among them, it is said that the researcher, in addition to his specific characteristics, must be a specialist and expert, and the products achieved through research must be endorsed by members of a nationally recognized institution.	Social and political organizations
For training	Also referred to as social and cultural because they address the needs of these areas, they have been named as such for three reasons: they are oriented toward everyday activities that also characterize previous professional practices; they emphasize the uniqueness of a postgraduate	Community organizations

	educational institution; and they are issued by a group of educational researchers who strive to become agents of educational research with, without, and despite institutional support (García, 2017a and 2017b).	
Emerging	They are based on the technological boom. The ranges of action and impact are broad and powerful; they can be carried out by all cational actors and interested individuals; they are no longer exclusive to researcher; and they are generally developed outside the institution because they lack jurisprudence and are sometimes carried out outside of working hours (García, 2019). They are also supported by post-industrial societies, knowledge societies, and information societies. Its importance is supported by the following aspects: the achievements obtained are short-term; the results have an individual, professional, institutional and social impact; the benefits are economic, political, educational and ethical; and collaborative work between national and international educational and non-educational research communities is privileged, among other issues.	Current society

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Regarding the main actions, some of them are presented in the following table.

Table 3: Professional practices of the educational researcher. Main actions

Group	Name	Main Actions
1	Original	Knowledge production
2	Regulatory	Teaching, research, outreach, and dissemination
3	Institutionalized	Creation of cultural enterprises and critiques of the state.
4	Ex officio	Preparation of diagnostics, development of knowledge statuses, and regional, state, and national educational research projects.
5	For training	Building community learning organizations. For example, a reading club and sociocultural celebrations.
6	Emerging	Acting as entrepreneurs, manual workers, and knowledge workers.

Preparation by the co-authors of this work based on García's (2021) proposal on the professional practices of educational researchers.

Personal Positions

In their daily work life, educational researchers are committed to developing professional practices in the Original and Normative groups. Both are mandatory (mainly teaching, research, dissemination, and outreach, in addition to ad hoc commissions). This is because, in addition to being hired to carry them out within the institution, they receive a salary every 15 days and are evaluated based on the criteria established in the curriculum, regulations, programs, and institutional policies.

However, there are educational researchers who choose and develop, both within and outside of their work institutions, some professional practices of their own free choice (Institutionalized, Ex officio, Training, and Emerging) out of personal interest, conviction, and ethics, and with the same ethical, academic, professional, personal, intellectual, political, and other commitments as the Original and Normative professional practices.

The challenges and difficulties faced by educational researchers in developing self-selected professional practices are diverse. These include the following:

1. They do not receive institutional financial support,
2. They use their work time to develop them,
3. They personally cover the financial expenses,
4. They are developed outside of work hours,
5. They are developed with the same professional and social commitment, and
6. No efforts or resources are allocated to develop them.

García (2020 a, b, and c, 2021, 2012, 2023, 2015, and 2017) interviews three educational researchers assigned to educational and graduate institutions, affiliated with the Mexican Network of Educational Researchers (REDMIIE) and located in different states of Mexico (State of Mexico, San Luis Potosí, and Zacatecas) with the aim of identifying which are the mandatory and freely chosen professional practices and which are developed.

Among the results obtained are the following:

1. They outnumber men in three research networks (Mexican Council for Educational Research - COMIE, REDMIIE, and REDEM).
2. They develop professional practices classified as groups 1, 2, 3, 4, and 6.
3. Two develop professional practices for training.
4. They are authors and co-authors of books, book chapters, and journal articles.
5. They collectively prepare contributions that are reviewed and presented at academic events, preferably national.
6. All denied acting as entrepreneurs, but ended up accepting this by acknowledging that they implement publication activities and, sometimes, personally cover the financial expenses, implement presentation and sales activities, and cover the costs of registration, lodging, food, and transportation to attend and present contributions at academic events.
7. They recognize the challenges, difficulties, and obstacles of

acting as entrepreneurs, knowledge workers, and knowledge workers, and, even if the institutional administration does not recognize the efforts made to connect the three modes of action, they would continue to finance and invest financially to achieve their goals and fulfill their personal objectives.

8. They are aware of the advantages and benefits obtained by developing mandatory and freely chosen professional internships, and therefore, they carry them out with the same enthusiasm, conviction, and professional ethics.

Conclusions

The actions outlined in the title of this article are generally carried out by individuals or groups who are convinced of their social impact. Consequently, they do not receive institutional financial support for their work, nor do they receive recognition for doing so.

Within institutional discourse, the invitation to participate in research networks is insistent; however, little attention is paid to their practice, even though the results of these actions have a positive influence on both the training processes and the consolidation of the academic, professional, employment, and personal trajectories of the researcher, the student, and the educational institution.

For Druker (2008), the three actions are important because they are in keeping with the historical era. However, knowledge work has a special merit: professionals who receive this recognition apply knowledge at the highest level, and their productivity is highlighted, linking the tasks of the knowledge worker and those corresponding to the manual worker within the field of knowledge management.

This type of researcher occupies a prominent place in today's societies due to their leadership as knowledge managers. Therefore, the groups formed by them represent the largest group of knowledge workers in the world, growing most rapidly through the Internet and are the true successors of the skilled workers of the 19th, 20th, and 21st centuries (Drucker, 2008).

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