

Extension Education Principles through Postgraduate Programme: A Conceptual Review

Atikah Yusof¹, Mohd Mursyid Arshad², Siti Rabaah Hamzah¹

¹Faculty of Educational Studies, Universiti Putra Malaysia, 43400, Serdang, Selangor,

²Institute for Social Science Studies, Universiti Putra Malaysia, 43400, Serdang, Selangor

Corresponding Author's Email: m_mursyid@upm.edu.my

To Link this Article: <http://dx.doi.org/10.6007/IJARBS/v13-i14/12290> DOI:10.6007/IJARBS/v13-i14/12290

Published Date: 16 August 2023

Abstract

Through the incorporation of self-directed learning and remote learning into the educational system, the sequence from the diffusion of COVID-19 and the transition to the endemic phase has resulted in an awareness of lifelong learning. In light of the fact that self-efficacy in the learning process is the foundation of Positive Youth Development (PYD), e-learning has become the most popular choice and continues to be used. As a consequence, there is a need to improve self-efficacy in the learning process. In the context of education, self-efficacy is a significant factor in determining student accomplishment throughout the learning process and a contributor to the development of generic skill. The learning process can be fulfilled through obtaining formal education through the university system, with a focus on the Extension Education as a hub for the process of lifelong learning. Exploration of the Extension Education serves as the basis for the viability of postgraduate programmes, giving people the chance to acquire balanced skill sets while also helping them to attain their goals. Thus, the intention of this concept paper will thoroughly explain the definition and development of Extension of Education and how the postgraduate course complies to the parameters set out in the area of extension education and how this process of learning impacts the Positive Youth Development. In this study, generics are viewed as a vital element that must be integrated into each person's life in order for them to live a lifelong life, in addition to being seen as a strength to meet obstacles in the world of work. It must begin by examining how a formal education system fosters the growth of self-efficacy. Youth empowerment during this time period depends on the process of applying skills in a real-world environment since it promotes the concept of responsibility and the perception that their efforts are having a positive impact. The elements of the '5C' in Positive Youth Development will be nurtured during this process through effective youth-adult connection throughout the skill-building activities, as well as youth engagement and leadership.

Keywords: Extension Education, Self-efficacy, E-learning, Positive Youth Development (PYD)

Introduction

Elements of lifelong learning skills and generic skills, according to a report issued by the International Labor Office through the ILO Strategic Plan for 2022-25, are components that need to be strengthened in individual self-development (Bridgford, 2020). This is due to the need for lifelong learning to be aligned with the individualization of skill development (Andersen, 2012; Hager & Holland, 2007; Nghia, 2017) and to become a priority agenda following the COVID-19 crisis (International Labor Conference 109th Session, 2021). Furthermore, skills and lifelong learning are at the foundation of an individual approach to future success and ensuring that every individual gain from the full potential of technology developments and other change drivers so that no one lags behind. As a result, the consistency of this purpose may not only generate an entire generation of economic sustainability, but also generate the identity, quality, and self-development of sustainable youth in tandem with advanced technology.

As a result, formal education in the university system is the best setting to examine the general development process by focusing on the Extension Education strategy as a hub for the lifelong learning process (Jackson and Michelson, 2016). This is because efforts to improve the development of human resources in the labor market must start with an exploration of the extension or development approach, which concentrates and emphasizes the development of knowledge, skills, and competencies that serve as the cornerstone of enhancing organizational performance (Gilley et al., 2002; Ngambi & Chakanika, 2020). Extension Education, as a platform for the sustainability of postgraduate programmes, provides possibilities for students to accomplish their goals even while increasing the development of balanced skills (Sichula, 2016).

This claim is consistent with the ideas and philosophy of extension education, which defines extension as the process of using what has been learned to develop trust in others while also fostering the growth of leaders, communities, and the environment beyond them (Ray, 2008). Through this principle, having educational opportunities assists the community, either individually or collectively, in making important decisions for personal and community life development (Ngambi & Chakanika 2020). The learning process is not a one-time process, but rather a continual process of self-development known as self-actualization (Maslow, 1943). While several types of programme planning models are used to analyse the extension that occurs (Boone et al., 2002; Lineback, et al., 2021) the focus of an evaluation should be on the need between what should be (the intended outcome) and what the actual reality is (Leagans 1981).

As a consequence, engagement between both the private sector and the government is needed to provide extension services (Chapman and Tripp, 2003; Swanson, 2008). In this context, educational institutions have a greater responsibility and serve as an inspiration to the entire society, serving not only as a repository of information but also as a platform for sharing knowledge (Shehzadi et al., 2021; Ngambi, 2020). This endeavour necessitates an active learning environment in order for the transmission of learning information from lecturers or teaching professionals to students to take place successfully (Doppelt, 2003; Shi & Cai, 2021). From a general standpoint, active postgraduate learning can indirectly create a youth personality as a positive, autonomous, and superior adult group, and even manage to establish a balancing of autonomy, support, and high community trust (Springpoint, 2017).

Problem Statement

Individual success in preparing for the evolution of the twenty-first century is contingent on the ability to maximize one's potential. Several human resource management scholars have made similar observations. Throughout this sense, some experts in human resource management (such as studies by Dubios et al., 2004; Lawler, 1994; Lucia & Lepsinger, 1999) and Organizational Development (Maddy et al., 2002) consider generic or competence as the primary mechanism that can promote human behaviour and self-development and so indirectly contribute to corporate performance during learning process. Nonetheless, there is still improvement to be made in the exploration of how the field of Extension Education and generic components may be merged in human resources (Scheer, 2020). The issue on the sustainability of individual generic development has received a lot of attention in the generic conversation, particularly at the higher education level (Ploum et al., 2018). Yet, research from the student perspective is also required to determine the usefulness of discourse in identifying the type of competence (Lambrechts et al., 2018 p.563) and it casts doubt on the usefulness of the generic skills paradigm that was developed (Ploum et al. 2018). As a result, in order to understand the development of competence skills, the first step must be an examination of the target group's conditions and experiences (Mona, 2019), as indicated by Leagans (1981) in the context of Extension Education. The purpose of this article is to better understand how the process of generic skill and self-development happens if the essence of human resource development that prioritises generic strengthening is prioritised in the field of Educational Development through the academic field, as suggested by (Kelsey & Hearne, 1963; Ibe & Chukwuma, 2022; Das et al., 2014).

Extension Education Principles

Extension Education commonly referred to as agricultural development, is a branch of science and social science that is motivated by the maxim "helping others, helping oneself" and forms desired behaviours based on the tenets of "learning by doing" and "seeing is believing"(Das & Tripathi, 2014). Examples of the wide range of topics covered in this field include the development of home sciences, health, home economics, and other sectors that depend on and support educational development concepts. Extension is a philosophy that underpins the area of education (Jones and Garforth, 2005) and is responsible for transferring information, skills, and values from one generation to the next (Mwansa & Chakanika, 2019).

The strategy of this discipline is not only oriented on the agricultural field but can also be utilised and expanded throughout many fields including job development, education development, and research development in order to cope with the advancement of the 21st century (Sichula, 2016). The concept "expansion" or "extension" is derived from the Latin phrases "tension" which means "expansion," and "ex," which means "exit". As a consequence, development is categorised as an educational process that integrates the principles of social science with the findings of physical and biological sciences to affect people's knowledge, skills, attitudes, and practises in the world outside of school in order to achieve a greater level of their lives (Das et al., 2014; Ibe, 2022).

Apart from agricultural efficiency, youth development, leadership, and community development are among the development scopes that are focused on to ensure that the goals of Extension Education can be achieved (Kelsey & Hearne1963; Ibe et al., 2022). According to Das et al. (2014), the scope of Extension Education broadens when educational programmes

at the Masters and Doctoral levels begin to offer concentrations in these disciplines and professions.

Extension Education through Postgraduate programme

Despite the fact that Extension Education emphasises concepts that can be applied outside of the context of educational institutions (schools and universities) Ibe et al (2022); Das & Tripathi (2014); Singh & Rai (2018); Mwans et al (2019), the principle of this field emphasises human resource development (HRD) as the primary mechanism (Scheer, 2020). According to Gilley et al (2002, p. 4-5), HRD refers to the development of general generic or competence, knowledge, and skills as a step to enhance performance in the former organisation while maximising the alignment between organisational needs and human resources. The goal of HRD in the field of agriculture and development, according to Röling (1988) and his extension, is not focused on the development of agriculture through individual efforts but instead emphasises how individuals develop their own ability to become better leaders, entrepreneurs, and decision makers so that they can be a part of the effective community throughout the programme. Hence & Clark (1987) and Nwabuaku et al. (2017) argue that human resource development is the major asset in Extension Service to build holistic individuals and that the quantity of highly competent people is the key to success in the field of Extension Education (Bahal et al., 1992).

In order to determine how the practice of Extension Education is carried out, a number of planning models have been developed, including The Interactive Model (Caffarella & Daffron, 2013), The targeting outcomes of programs model (Rockwell & Bennet, 2004) and The Logic Model (Taylor-Powell Henert, 2008). However, occasionally or consistently, the development program's objectives and evaluation come up short of the predetermined standards of performance (Scheer, 2020). While youth development is one of the major philosophies outlined in the Extension Education, Scheer (2020) contends that the model used to depict into this major does not place the characteristics of a focused target group, including a focus on the youth group. Peer education engagement needs to be used as a starting point for youth activism in the extension programme in order to align this development with the ability to sustain the workforce of the twenty-first century (Cochran et al., 2010; Groff, 1992).

Thus, if human resource development is one of the key factors that contributes to the seamless development of Extension Education (as claimed by Clark (1987); Scheer (2020), which can also take place in formal education settings (Nwabuaku et al., 2017), then the Postgraduate level are one of the approaches that can be explored to see how this development of education takes place with a focus on youth as suggested by Das et al (2014). This is because the field of Extension Education emphasizes the value of the responsibility that students need to bear towards community development which is now an important component in the university education system which is no longer limited to the field of agriculture (Narayanasamy, 2001; Banda, 2019). The fundamental goal of this approach is to create information that can help individuals develop their potential as problem-solvers (Chakanika, 1989; Suvedi and Kaplowitz, 2016).

Application of Extension Education Principles in Formal Setting

According to several academics' perspectives, Extension Education is defined variously Chakanika and Sichula (2016); Igwe & Abbah (2021) as examples) nonetheless, the core of

development is to understand the purpose and structure of educational processes (Mwansa et al., 2019; Levine, 2004; Nisha, 2006; Savile, 1965) in order to broaden our understanding and meet the needs of community and self-development (Savile, 1965; Chakanika et al., 2016). Through this debate, Powers and Tiffany (2006) contend that include young people in research groups and using efficient research techniques can help foster youth development and raise the standard of academic studies on topics that have an impact on young people's lives. In reality, the concept of student engagement via a bigger context is as an indication that is the connection between ecological impacts on organisational structure and the objectives of the education system (Lawson & Lawson, 2013). This is aligned with Zyngier's (2008) argument that youth development can be strengthened during the learning process if they are given the opportunity to develop and explore any kind of prospects that are not confined to the pre-structured education system.

However, discussions about the development of research self-efficacy or self-efficacy among postgraduates frequently centre on the doctoral level, adult age level, field of psychology or counselling, self-efficacy and the work profession, and field of medicine or nursing (as example through research; (Rowe-Johnson, 2018; Speer et al., 2021; Miri et al., 2018; Nazari et al., 2021). Yet, there is currently a paucity of study and in-depth material that focuses on how postgraduate degrees, such as Master's and Doctor of Philosophy programmes, assist youth enhance their sense of self-efficacy. Van Blankenstein et al., (2019) claim that improving students' self-efficacy may take place at the undergraduate level, particularly when a research or experiment covers the complete process, including writing, reviewing, and editing. He also discovered that through the interplay of linked demands, these satisfying experiences represent the student's inherent talents in an indirect way.

In this case, Wilkinson & Wilkinson (2018, p. 2) argue that participation in research provides a platform for building shared knowledge that influence four components of youth development; (1) a capacity for critical thought; (2) creating a social network with a vast information base; (3) Effective leadership abilities; 4) specific capabilities including argumentation, writing, research, and presenting. To empower youths, purposeful action is needed to instill in them a sense of responsibility and the belief that their efforts are contributing to success Peréa et al (2019) throughout the process of integrating competencies in a practical setting (Wu, et al., 2016). This purpose is compatible with Zimmerman's (1995) contention that youth interaction promotes the development of three interconnected components: (1) intrapersonal impacts (relating to the importance of self-esteem, effectiveness, and feeling in control); (2) the outcome of engagement (relating to the importance of understanding that the environment impacts and serves as a source of support and mobilisation in the formation of a superior life); and (3) the outcomes of conduct or deeds that present chances for change.

The discussion in this piece aims at explaining how generic reinforcement might happen during the postgraduate learning process. Through the postgraduate programme, individuals experience a variety of difficulties in maintaining academic strength throughout the research process so that every discovery that emerges is pertinent to the actual environmental conditions. A key component of this process' orientation is the creation of common knowledge that is not just based on researchers but rather via collaboration among researchers who are interested in the phenomena under study (Orlowski et al., 2015). Throughout the process of developing this knowledge, the youth are not only given the chance to express their opinion or voice on a problem, but they are also given the opportunity to practise and improve their own capacities in order to fulfil the study's aims. As a result, input from the youth participated

in this knowledge acquisition process is critical in understanding each of their barriers and strengths from the youth's perspective (Hawke, 2020). In order to look into broadly the topic of generic added strength in more detail, the following discussion from this concept paper can be explored by qualitative research.

Positive Youth Development through Extension Education

Self-efficacy is a key component of the formal education system and one of the important indicators for determining how well the learning process has progressed (Cahyani & Winata, 2020), which eventually promotes in the development of generic skills (Richardson et al., 2012; Panadero, 2017; Vogel & Human- Vogel, 2016). Generic not just to focuses on the development of skills for dealing with challenges in the workplace, but it is also an important component that must be implemented for every individual to lead a lifelong life (Wong & Cheung, 2020). Self-efficacy is an important element in the discussion of Cognitive Theory (1986), which aims to provide an explanation and meaning to an individual's self-development and how to respond to change through specific activities forward into success.

Based on the theoretical framework shown above, this strengthening is based on four self-efficacy principles that are highlighted: Mastery Experience, Vicarious Experience, Verbal Persuasion, and Affective State (Bandura, 1997). According to this principle, individuals who can methodically define their own objectives to deal with a variety of situations, particularly in the academic sector, play a more significant role in society (LaRocca, 2017). Enhancing self-efficacy and inherent strength is essential for academic endeavours, especially during e-learning (Pumptow and Brahm, 2020). Self-efficacy, however, also needs ecological support in order to ensure that a balanced and comprehensive self-development formation process may be realised. Yet, Bronfenbrenner (1979). contends that even when the connection is indirect, the ecological system's impact on a person's life trajectory must be significant in order for individual growth to take place (Pittenger et al., 2016).

Although intrinsic factors are the main impetus behind how individual capabilities are improved (Serin, 2018), it is vital to often interact with extrinsic demands to boost self-development in a more favourable manner (Saygili, 2018). Accordingly, in the context of this discussion, youth can strengthen their self-efficacy and extrinsic motivation through research programmes if they are given choice and autonomy, which fosters connections and encourages a healthy sense of social dependence (Van Blankenstein et al., 2019). This is because the learning environment is also crucial for forming consistent and high-quality learning outcomes. This purpose may be met if students actively organise, plan, and regulate each activity in order to encourage the learning process, a process known as self-regulation (Jain and Dowson, 2009; Jansen et al., 2019). Littenberg and Reich (2020) consider self-regulated learning as the primary strategy that improves the student's success process in light of the new norm learning environment that focuses on online technology. However, Richardson et al (2012); Vogel & Human (2016); Panadero (2017) argue that in order to increase academic performance and knowledge development in education through various learning process scenarios, the Self-efficacy and Self-regulation approach is an integration that is effective in strengthening generic competence.

According to Soobard et al (2018), the first step in realising this potential is to support youths in organising or putting current talents to use while conducting evaluations to make sure all

facets of their abilities are developed. Salehi et al (2013); Garavand et al (2014) argue that the field of research in education is also one of the mediums to see how this strengthening occurs, even though this exploration of self-efficacy has been done in a variety of scientific fields, such as online technology and self-efficacy through the use of computers (Alqurashi, 2016; Shen et al., 2013). Trust and engagement between youth and adults in learning and research without any restrictions will better support this generation's capacity and growth. Youth particularly those in postgraduate circles, should be aware of the importance of learning about the role and needs of the community through the success of a research process because they will be the ones to expand scientific services, make improvements to society, and make important policy decisions (Ramin & Aghazadeh 2014; Tiyuri et al. , 2018; Racheal et al., 2019).

The process of practising skills in a real-world setting is essential for youth empowerment Wu et al (2016) because it fosters the value of responsibility and the sense that their efforts are contributing to success (Peréa et al., 2019). This argument is in line with the Effective Youth Development Model put forward by (Lerner et al., 2007). According to this, three key components indicated to promote PYD to guarantee effective youth development include ongoing good interactions between adults and youth, skill-building activities, as well as youths engagement and leadership. According to Lerner et al (2005), programmes that combine these three characteristics lead in the development of the "5C," which represents effective adult development followed positive youth outcomes. These five components (competence, competence, character, connection and caring) serve as development-related markers for the PYD program's goals and outcomes (Lerner, Fisher & Weinberg, 2000; Roth &Brooks-Gunn, 2003). A strategy that can be implemented to encourage youth development and enhance scientific research on topics that influence young people's life is to include youth as research partners and as active participants in the learning process through the availability of participation opportunities. In this discussion, it will be made clear that participatory techniques have grown in popularity over the past several years (Jagosh et al., 2012; Simonds et al., 2013) as a democratic strategy for involving youth in the research process (Peek et al., 2016).

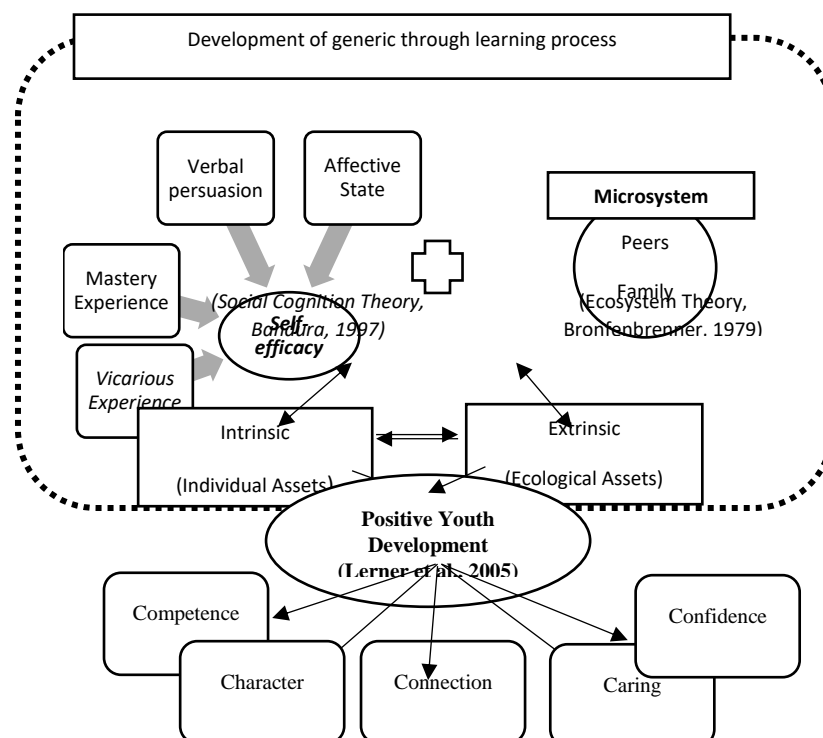


Figure 1: Conceptual Framework of Generic through learning process

Conclusion

In short, the fundamental objective of the government, policymakers, and development programme providers is preparing to promote youth development in approaching adult (Lerner et al., 2018). Youth are more adept at evaluating their own talents, therefore one of the actions that may be taken to build and exercise development potential is educational growth via research activities, such as postgraduate level. According to Fahimirad et al., (2019) the development of communication skills, creativity, critical thinking, management and leadership abilities, problem-solving abilities, social responsibility, lifelong learning, and sustained teamwork will come about as a result of this learning process. Thus, this concept paper is a discussion to add to current knowledge in the field of Extension Education on the development of generic skills in a purposeful way through the education system. The philosophy of this field is to facilitate communication, skills, and values from one generation to another (Mwansa, & Chakanika, 2019), and youth is one of the groups that has to be focused on. This makes Extension Education one of the finest platforms to develop this potential (Kelsey & Hearne 1963; Ibe et al., 2022). Youth participation in postgraduate programmes can thus be a part of the PYD programme, particularly in research, since the features of this programme offer numerous reciprocal advantages including skill development, youth empowerment and socialisation, improved possibilities, and ecological validity of research.

References

- Alqurashi, E. (2016). Self-efficacy in online learning environments: A literature review. *Contemporary Issues in Education Research (CIER)*, 9(1), 45-52
- Anderson, C. (2012). *Makers: The new industrial revolution*. Random House.
- Bahal, R., Swanson, B. E., & Farmer, B. J. (1992). Human resources in agricultural extension: A worldwide analysis. *Indian Journal of Extension Education*, 28 (3, 4), 1-9.

- Bandura, A., & Wessels, S. (1994). *Self-efficacy* (Vol. 4, pp. 71-81). na. Boone, E. J., Safrit, R. D., & Jones, J. (2002). *Developing programs in adult education: A conceptual programming model*. Waveland Press.
- Bridgford, J. (2020). Skills development and lifelong learning: resource guide for workers' organizations.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press
- Caffarella, R. S., & Daffron, S. R. (2013). *Planning programs for adult learns: A practical guide* (3rd ed.). San Francisco, CA: Jossey-Bass
- Cahyani, N., & Winata, H. (2020). Peran Efikasi dan Disiplin Diri Dalam Peningkatan Hasil Belajar Siswa. *Jurnal Pendidikan Manajemen Perkantoran (JPManper)*, 5(2), 234-249.
- Chakanika, W., Sichula, N., & Ng'ambi, S. (2016). In defence of University extension education. UNZA Press.
- Chakanika, W. W. (1989). A Critique of Extension Work in Zambia. In *International Journal of University Adult Education*. Vol. xxviii, No. 2, pp 47-56
- Chapman, R., & Tripp, R. (2003). Changing incentives for agricultural extension: A review of privatised extension in practice.
- Clark, R. W., & Smith, K. L. (1987). Burnout and Associated Factors among Administrators/Mid-Managers of the Cooperative Extension Service in the North Central Region. Summary of Research 46.
- Das, S. K., & Tripathi, H. (2014). Extension education: Myth or reality. *International Journal of Bio-Resource and Stress Management*, 5(3), 467.
- Dubois, D. D., Rothwell, W. J., Stern, D. J., & Kemp, L. K. (2004). *Competency- based human resource management*. Palo Alto, CA: Davies-Black Publishing
- Fahimirad, M., Nair, P. K., Kotamjani, S. S., Mahdinezhad, M., & Feng, J. B. (2019). Integration and Development of Employability Skills into Malaysian Higher Education Context: Review of the Literature. *International Journal of Higher Education*, 8(6), 26-35.
- Garavand, H., Kareshki, H., & Ahanchian, M. R. (2014). The role of educational- research environment and social factors on the research self-efficacy of students of Mashhad University of Medical Sciences. *The Journal of Medical Education and Development*, 8(4), 32-46.
- Gilley, J. W., Eggland, S. A., and Gilley, A. M. (2002). *Principles Of Human Resource Development*. Basic Books.
- Groff, J. M. (1992). Teens reaching youth. *Journal of Extension*, 30(4), Article 4FEA5. Available at: <http://www.joe.org/joe/1992winter/a5.php>
- Hager, P., & Holland, S. (Eds.). (2007). *Graduate attributes, learning and employability* (Vol. 6). Springer Science & Business Media.
- Hawke, L. D., Darnay, K., Relihan, J., Khaleghi-Moghaddam, M., Barbic, S., Lachance, L., ... & Henderson, J. (2020). Enhancing researcher capacity to engage youth in research: researchers' engagement experiences, barriers and capacity development priorities. *Health Expectations*, 23(3), 584-592.
- Ibe, P. C., & Chukwuma, F. O. (2022). Adult Education As A Means Of Providing Extension Education Programmes For Community Development: Major Challenges. *Journal of Community & Communication Research*, 7(1).
- Igwe, N. J., Ogwo, U., & Abbah, O. I. (2021). Perceived Role of Extension Education in Promoting the Use of Biogas for Sustainable Agricultural Development in Nigeria. In *IOP*

- Conference Series: Earth and Environmental Science* (Vol. 730, No. 1, p. 012034). IOP Publishing.
- International Labour Conference. (2021), Shaping skills and lifelong learning for the future of Work Report of the Committee of Experts on the Application of Conventions and Recommendations, retrieved from https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_819708.pdf
- Jackson, D., & Michelson, G. (2016). PhD-educated employees and the development of generic skills. *Australian Bulletin of Labour*, 42(1), 108-134
- Jagosh, J., Macaulay, A. C., Pluye, P., Salsberg, J. O. N., Bush, P. L., Henderson, J. I. M., ... & Greenhalgh, T. (2012). Uncovering the benefits of participatory research: implications of a realist review for health research and practice. *The Milbank Quarterly*, 90(2), 311-346.
- Jain, S., & Dowson, M. (2009). Mathematics anxiety as a function of multidimensional self-regulation and self-efficacy. *Contemporary Educational Psychology*, 34(3), 240-249.
- Jansen, R. S., Van Leeuwen, A., Janssen, J., Jak, S., & Kester, L. (2019). Self-regulated learning partially mediates the effect of self-regulated learning interventions on achievement in higher education: A meta-analysis. *Educational Research Review*, 28, 100292.
- Jones, E. G., and Garforth, C. (2005). "The History of Development, and Future of Agricultural Extension": *Improving Agricultural Extension. A Reference Manual*. In B. E.
- Kelsey, L. D., & Hearne, C. C. (1963). *Cooperative Extension Work*. New York: Comstock Publishing Associates
- LaRocca, M. A. (2017). *The impact of posttraumatic growth, transformational leadership, and self-efficacy on psychological symptoms among combat veterans*. The University of Alabama.
- Lawler III, E. E. (1994). From job-based to competency-based organizations. *Journal of organizational behavior*, 15(1), 3-15.
- Lawson, M. A., & Lawson, H. A. (2013). New conceptual frameworks for student engagement research, policy, and practice. *Review of educational research*, 83(3), 432-479.
- Leagans, J. P. (1981). "A Concept of Needs." *Journal of Cooperative Extension*:86-89.
- Lerner R.M., Almerigi JB, Theokas C, Lerner JV. Positive youth development: a view of the issues. *J Early Adolesc*. 2005;25(1):10-16. doi:10.1177/0272431604273211
- Lerner, R. M., Brittian, A. S., & Fay, K. E. (2007). Mentoring: A Key Resource for Promoting Positive Youth Development. *Research in Action*. Issue 1. *MENTOR*.
- Lerner, R. M., Fisher, C. B., & Weinberg, R. A. (2000). Toward a science for and of the people: Promoting civil society through the application of developmental science. *Child development*, 71(1), 11-20.
- Lerner, R. M., Lerner, J. V., Geldhof, G. J., Gestsdóttir, S., King, P. E., Sim, A. T., & Dowling, E. (2018). Studying positive youth development. *Handbook of adolescent development research and its impact on global policy*, 68-82.
- Levine, S. J. (2004). *Core Competences; Extension Educator*. Michigan State
- Lineback, C. B., McKendree, M. G., Schwehofer, J. P., & Buskirk, D. D. (2021). Obtaining Extension Stakeholder Input to Influence Extension Education Programming and Staff Needs. *Applied Economics Teaching Resources (AETR)*, 3(1), 58-73.
- Littenberg-Tobias, J., & Reich, J. (2020). Evaluating access, quality, and equity in online learning: A case study of a MOOC-based blended professional degree program. *The Internet and Higher Education*, 47, 100759.
- Lucia, A. D., & Lepsinger, R. (1999). *The art and science of competency models: Pinpointing critical success factors in organizations*. San Francisco, CA: Jossey-Bass/Pfeiffer.

- Maddy, D. J., Niemann, K., Lindquist, J., & Bateman, K. (2002). Core competencies for the cooperative extension system. *Oregon State University Extension Service*. Retrieved from http://extn.msu.montana.edu/Jobs/pdf/Core_Competencies.pdf
- Maslow, A. H. (1943). A theory of human motivation. *Psychological review*, 50(4), 370.
- Miri, M. R., Salehiniya, H., Bahlgerdi, M., Tiyuri, A., & Tiyuri, A. (2018). Research Self-efficacy among Postgraduate Students at Birjand University of Medical Sciences.
- Mwansa, P. K., Chakulimba, O., & Chakanika, W. W. (2019). The itinerant nature of university extension education: An entity of no fixed abode and implications for its development at the University of Zambia. *Journal of Adult Education (online ISSN 2664-5688)*, 1(2), 1-14.
- Nazari, N., Salahshoor, M. R., Özdenk, G. D., Zangeneh, A., Lebni, J. Y., Foroughinia, S., ... & Ziapour, A. (2021). A study of the components of research self-efficacy in postgraduate students at Kermanshah University of Medical Sciences in 2018. *Journal of Public Health*, 29(5), 1243-1250.
- Ngambi, S. N., & Chakanika, W. W. (2020). University Extension Education in Zambia: increasing Opportunities for Human Resource Training and Development. *Multidisciplinary Journal of Language and Social Sciences Education (2664-083X, Online ISSN: Print ISSN: 2616-4736)*, 3(1), 43-58.
- Nghia, T. L. H. (2017). Developing generic skills for students via extra-curricular activities in Vietnamese universities: Practices and influential factors. *Journal of Teaching and Learning for Graduate Employability*, 8(1), 22-39.
- Nisha, M. (2006). *Understanding extension education*. Gyan Publishing House.
- Nwabuaku, K. W., & Perpetua E (2017). Extension Education: Effective Tool for Human Resource development in Rural Areas of Imo State. *Journal of Metascience*, 23-32
- Orlowski, S. K., Lawn, S., Venning, A., Winsall, M., Jones, G. M., Wyld, K., ... & Bidargaddi, N. (2015). Participatory research as one piece of the puzzle: a systematic review of consumer involvement in design of technology-based youth mental health and well-being interventions. *JMIR human factors*, 2(2), e4361.
- Panadero, E. (2017). A review of self-regulated learning: Six models and four directions for research. *Frontiers in psychology*, 422
- Peek, L., Tobin-Gurley, J., Cox, R. S., Scannell, L., Fletcher, S., & Heykoop, C. (2016). Engaging youth in post-disaster research: Lessons learned from a creative methods approach. *Gateways: International Journal of Community Research and Engagement*, 9(1), 89-112.
- Perea, F. C., Sayles, N. R., Reich, A. J., Koomas, A., McMann, H., & Martinez, S. L. S. (2019). "Mejorando Nuestras Oportunidades": Engaging urban youth in environmental health assessment and advocacy to improve health and outdoor play spaces. *International Journal of Environmental Research and Public Health*, 16(4), 571.
- Pittenger, S. L., Huit, T. Z., & Hansen, D. J. (2016). Applying ecological systems theory to sexual revictimization of youth: A review with implications for research and practice. *Aggression and violent behavior*, 26, 35-45.
- Ploum, L., Blok, V., Lans, T., & Omta, O. (2018). Toward a validated competence framework for sustainable entrepreneurship. *Organization & environment*, 31(2), 113-132.
- Powers, J. L., & Tiffany, J. S. (2006). Engaging youth in participatory research and evaluation. *Journal of Public Health Management and Practice*, 12, S79-S87.
- Pumptow, M., & Brahm, T. (2021). Students' digital media self-efficacy and its importance for

- higher education institutions: development and validation of a survey instrument. *Technology, Knowledge and Learning*, 26, 555-575.
- Racheal, P. O. H., & Abdullah, A. G. B. K. (2019). Factors influencing students' research self-efficacy: A case study of university students in Malaysia. *Eurasian Journal of Educational Research*, 19(82), 137-168.
- Ramin, M. R., & Aghazadeh, M. (2014). Research self-efficacy in the psychology and educational sciences graduate students. *Research in Curriculum Planning*, 10(9), 147-55.
- Ray, G. L. (2008). *Extension Communication and Management* (7th Edn.). Kalyani Publishers, Ludhiana
- Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: a systematic review and meta-analysis. *Psychological bulletin*, 138(2), 353.
- Rockwell, K., & Bennett, C. (2004). Targeting outcomes of programs: A hierarchy for targeting outcomes and evaluating their achievement.
- Roling, N. (1988). *Extension science: Information systems in agricultural development*. CUP Archive
- Rowe-Johnson, M. (2018). *The Development and Validation of the Postgraduate School Application Self-Efficacy (PSASE) Scale* (Order No. 10751653). Available from ProQuest Dissertations & Theses Global. (2112909151).
<https://www.proquest.com/dissertations-theses/development-validation-postgraduate-school/docview/2112909151/se-2>
- Savile, A. H. (1995). *Extension in Rural Communities*. London: Oxford University Press
- Saygili, G. (2018). Factors affecting students' learning motivation. *European Researcher. Series A*, (9-2), 163-170.
- Scheer, S. D. (2020). Introducing the Human Development-Ecologic Model: A Practical Approach for Outreach and Extension Education Programs. *Journal of Extension*, 58(2), v58-2a1.
- Serin, H. (2018). The use of extrinsic and intrinsic motivations to enhance student achievement in educational settings. *International Journal of Social Sciences & Educational Studies*, 5(1), 191-194.
- Shen, D., Cho, M. H., Tsai, C. L., & Marra, R. (2013). Unpacking online learning experiences: Online learning self-efficacy and learning satisfaction. *The Internet and Higher Education*, 19, 10-17.
- Sichula, N. (2016). *University extension education: historical perspectives, trends and the future*. UNZA Press.
- Simonds, V. W., Wallerstein, N., Duran, B., & Villegas, M. (2013). Peer reviewed: community-based participatory research: its role in future cancer research and public health practice. *Preventing chronic disease*, 10.
- Singh, A., Jirli, B., & Rai, A. (2018). Factors Influencing Attitude of Extension Professionals Towards Principles of Extension Education. *Indian Research Journal of Extension Education*, 18(4), 50-55.
- Soobard, R., Semilarski, H., Holbrook, J., & Rannikmae, M. (2018). Grade 12 Students' perceived self-efficacy towards working life skills and curriculum content promoted through science education. *Journal of Baltic Science Education*, 17(5), 838.
- Speer, P. M. (2021). *The Doctoral Learning Environment's Role in Shaping Research Self-Efficacy: An Exploratory Study* (Order No. 28719624). Available from ProQuest Dissertations & Theses Global. (2628790535).

- <https://www.proquest.com/dissertations-theses/doctoral-learning-environments-role-shaping/docview/2628790535/se-2>
- Springpoint. (2017), How Students Thrive: Positive Youth Development in Practice, retrieved from https://www.springpointschools.org/media/2017/02/springpoint_how_students_thrive_-_positive_youth_development_in_practice.pdf
- Suvedi, M., & Kaplowitz, M. D. (2016). *What every extension worker should know: Core competency handbook* (pp. 7-22). Michigan State University, Department of Community Sustainability.
- Swanson, B. E. (2006). Extension strategies for poverty alleviation: lessons from China and India. *Journal of Agricultural Education and Extension*, 12(4), 285-299.
- Taylor-Powell, E., & Henert, E. (2008). Developing a logic model: Teaching and training guide. *Benefits*, 3(22), 1-118.
- Tiyuri, A., Saberi, B., Miri, M., Shahrestanaki, E., Bayat, B. B., & Salehiniya, H. (2018). Research self-efficacy and its relationship with academic performance in postgraduate students of Tehran University of Medical Sciences in 2016. *Journal of education and health promotion*, 7.
- Vogel, F. R., & Human-Vogel, S. (2016). Academic commitment and self-efficacy as predictors of academic achievement in additional materials science. *Higher Education Research & Development*, 35(6), 1298-1310.
- Wilkinson, C., & Wilkinson, S. (2018). Principles of participatory research. In *Being participatory: Researching with children and young people* (pp. 15-35). Springer, Cham.
- Wong, G. K. W., & Cheung, H. Y. (2020). Exploring children's perceptions of developing twenty-first century skills through computational thinking and programming. *Interactive Learning Environments*, 28(4), 438-450.
- Wu, H. C. J., Kornbluh, M., Weiss, J., & Roddy, L. (2016). Measuring and Understanding Authentic Youth Engagement: The Youth-Adult Partnership Rubric. *Afterschool Matters*, 23, 8-17.
- Zimmerman, M. A. (1995). Psychological empowerment: Issues and Illustrations. *American journal of community psychology*, 23(5), 581-599.
- Zyngier, D. (2008). (Re) conceptualising student engagement: Doing education not doing time. *Teaching and Teacher Education*, 24(7), 1765-1776.