

Exploration of Sustainable Development Approaches for Teachers in Local Characteristic Universities—Taking Huang Danian's Teacher Group at Guizhou Institute of Technology as an Example

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Abstract: At present, China is in the process of educational reform, and the higher education of universities must play its due role and keep pace with the times to adapt to the development of globalization. In order to improve the quality of higher education and realize the connotative development of higher education with local characteristics, high-quality university teachers are needed. But at present, in view of this problem, the domestic research is mostly from the system and technical level, ignoring the inherent initiative of people. At the present stage, the development of university teachers is generally inefficient, and the development of most university teachers is not free and comprehensive. This paper takes Huang Danian's team of teachers in Guizhou Institute of Technology as the research object, summarizes the problems faced by young teachers in local colleges and universities through questionnaires and Systematic Literature Review, takes Huang Danian's spirit as the guide, faces the dilemma of teachers' development in today's colleges and universities, tries to introduce the concept of mission consciousness, and explores the relationship between teachers' development and mission consciousness in local characteristic It tries to break through the dilemma of the development of university teachers from the internal causes of teachers, and promote the efficient, free and comprehensive development of university teachers.

1. Introduction

With the development of the times, colleges and universities have increasingly become the center of national development, especially since the 1950s, most countries in the world began to move from elite education to popular education, and improving the quality of higher education has increasingly become the core issue of higher education, which is mainly determined by the quality of university teachers. The development of university teachers has gradually entered the vision of researchers, and is regarded as the core issue of the development of higher education, even as "the

heart of school and teaching innovation, which can rebuild and revitalize the educational hope of a country to the greatest extent". [1]

In 2015, the State Council issued the General Plan for Promoting the Construction of World-class Universities and First-class Disciplines, which sounded the charge of building world-class universities and first-class disciplines, and strived to make China a powerful country in higher education by 2050. It is not difficult to see that the demand for high-quality education is growing. If we want to improve the quality of higher education and realize the dream of a powerful country in higher education, we must need high-quality teachers. The prosperity of the country, the rejuvenation of the nation and the development of education require us to vigorously cultivate a team of high-quality professional teachers with noble ethics, excellent professional skills, reasonable structure and full of vitality, and a large number of good teachers need to emerge. So, are today's university teachers ready? What is their development status? How to improve the overall level of university teachers and promote the development of university teachers has become an unavoidable issue of the times. With the deepening of the understanding of the role of university teachers, the development of university teachers has increasingly become a hot topic in academic circles. On the development of university teachers, the previous research paths are mainly: on the one hand, they focus on the training of various professional skills, but the effect is very little, obviously focusing on cognitive factors. On the other hand, even if there are strategies to stimulate teachers' development motivation and willingness, they rely too much on external institutional incentives or constraints, fail to fully understand the significance of mobilizing teachers' initiative and consciousness, and ignore the real needs of teachers and the impact of human initiative on teachers' development. According to materialism, internal causes play a decisive role in the development and change of things, and any development that lacks people's autonomous efforts can not be a real development. Therefore, on this kind of development path the internal cause dimension neglect or the flaw, causes the teacher development strategy to emerge in an endless stream, but because "I" am not present, the teacher development lacks the inexhaustible development power, the overall development is still not very ideal. For example, the overall living condition of teachers is not good; The loss of teachers' identity, especially the lack of motivation for development, and the alienation of teachers' development dominated by the technical route: utilitarian, not free, passive, and inefficient.[2-5]

In view of this problem, this paper argues that the development of university teachers itself should contain a deep concern: what kind of person people should be, how people should live on earth, that is, what kind of person we want university teachers to grow up to be, and how we want them to live. Marx's theory of all-round development of human beings helps us point out the direction of thinking: human beings should realize the all-round development of physical strength and intelligence, and on this basis, all aspects of human abilities should be fully developed to realize human liberation. College teachers are people, college teachers are not only a professional and technical personnel, but also a real development of others also need to develop their own people, college teachers are people who inherit, create and lead culture, which is the fate of college teachers, but also the achievement of the natural mission of college teachers-that is, the mission of educating people and academic mission. It determines that the mission of teachers can not be ignored in the development of university teachers. "Mission" is the representation of human nature and the root of human life. Mission naturally exists. Mission can guide the development direction of university teachers, provide the development power of university teachers, tap the potential power of university teachers'life, awaken the consciousness of life development, and carry forward the personality of life. College teachers' consciousness of their mission enables them to live as teachers, improve the quality of life and the realm of life, and realize the meaning of life. Thus, from no freedom to inner freedom, from slavery to liberation, from one-way skills to overall development,

life continues to gain the energy of progress and continue to achieve self-renewal[6-11].

2. Huang Danian style teacher team in universities

Huang Danian was a world-famous geophysicist. In 2009, he gave up all the advantages he had in Britain and returned to his alma mater, Jilin University, to teach. He is the first expert of the "Thousand Persons Program" introduced in Northeast China. Over the past seven years, he has led the scientific research team to study assiduously, achieved a series of major scientific and technological achievements, filled many gaps in domestic technology, some of which have reached the international leading level, and made outstanding contributions to the exploration of deep resources and the construction of national defense security. In January 2017, Comrade Huang Danian died of illness at the age of 58. After the death of Comrade Huang Danian, the Publicity Department of the CPC Central Committee, the Ministry of Education, the Ministry of Science and Technology, the Chinese Association of Science and Technology, the Chinese Federation of Overseas Chinese, the Overseas Chinese Office of the State Council and the Jilin Provincial Committee posthumously awarded Comrade Huang Danian "Model of the Times", "National Excellent Teacher", "Outstanding Scientist", "Model of Returned Overseas Chinese Sincerely Serving the Country" and "Excellent Communist Party Members of the Province". He also called on the whole society to learn from Comrade Huang Danian.

3. Methodology

In this study, the qualitative analysis method is used. On the basis of a large number of interviews and literature reading, data are collected through questionnaires and systematic literature review. Data collection was divided into two phases, as different collection tools and sources of evidence were used, in order to build a rich database of scientific material and to facilitate the interpretation of the results and their discussion.

3.1. Questionnaire method

Questionnaire is a structured survey, in which the expression form of survey questions, the order of questions, the way and method of answers are fixed, and it is a way of written communication. Therefore, it is impossible for any individual, whether a researcher or an investigator, to substitute subjective prejudice into the survey. The results of the questionnaire are convenient for statistical processing and analysis. Questionnaires save time, money and manpower, which is why they are often used. The results of questionnaire survey are easy to quantify. Questionnaire survey is a kind of research method to discover the current situation of facts. The biggest purpose is to collect and accumulate the basic information of various scientific and educational attributes of a target group. There are 25 questions in this questionnaire. A total of 280 questionnaires were distributed and 247 were returned.

3.2. Systematic literature review

CNKI, Wanfang database, Scopus and Web of Science database were used for literature review. The search strategies used are "Education for Sustainable Development", "Huang Danian" and "Local Higher Education". The collection of scientific findings in the database was guided by the following research question: How can local institutions of higher education adopt the SDGs? A total of 240 scientific findings were found in the study using only descriptors. In the second step, filters are applied to retrieve publications from the last five years (2018-2023) for the most recent data. To

refine the content, filters were applied by document type, selecting only scientific articles (articles and review articles), thus identifying 119 studies. In the third step, read the title, abstract, and keywords, taking into account the inclusion and exclusion criteria. As a result, 81 articles were selected[12].

4. Results

4.1. Insufficient attention to teaching

The level of a teacher's development cannot be measured without their teaching level and educational spirit. So, what is the teaching status of the teacher? How about the enthusiasm for educating people? The survey questionnaire shows that the enthusiasm of university teachers in class is not high, with only 43% being positive. More people are willing to do their own research and write articles, treating teaching as a contribution and scientific research as income. In collecting undergraduate teaching evaluation materials, we found that there is not enough emphasis on teaching. After a systematic literature review, it was found that the proportion of professors attending classes is also low. Both the Ministry of Education and some universities have repeatedly emphasized the need for professors to teach undergraduate students. In our interviews with peers, almost all almost all agreed: teaching is very important, but what can teaching bring? At present, most excellent evaluations mainly rely on papers and cannot have too much energy invested in teaching. Especially for the phenomenon of professors giving less lectures to undergraduate students through doctoral guidance, some teachers bluntly say that they basically let their own students attend. Some teachers take one course, but also give three-quarters of the doctoral students who stay on campus, and go to the last two classes on their own. It can be seen that university teachers seem to have no time to take into account the most basic responsibility of teaching.

The teacher's lack of emphasis on teaching has led to poor teaching effectiveness. Teaching is an activity that requires emotional and energy investment. Although a teacher has already acquired teaching qualifications and a certain level of professional competence when serving, they still need to continuously research and learn new knowledge in order to improve their teaching level and effectiveness. Teachers' insufficient attention and investment naturally affect the teaching effect: teaching methods are slowly updated. Even in National Key Universities, today's traditional teaching methods can no longer meet the needs of students in the new situation, and the teaching effect is poor. Teachers are full of irrigation and injection, lack of inspiration for students, and do not cultivate students' thinking. The teaching method is single, with limited information and non-standard teaching. The exam questions are too simple, emphasizing the assessment of knowledge rather than the assessment of ability. During the class interview, it was found that a teacher who had just returned to China had an average teaching level and admitted that there was a lot of research pressure, so he didn't have time to do well in teaching.

Teachers do not attach importance to teaching, and the effectiveness of classroom teaching is limited. If teachers do not fully devote themselves to teaching, it will naturally affect the academic atmosphere and the quality of talent cultivation. Classroom is originally a sacred palace where life meets soul, and it is a field where life grows.[13-17].

4.2. The direction of scientific research is confused

This Sincerely conducting scientific research is the core demand and way of existence of university teachers, which is the mission of university people and the symbol of good development of university teachers. But what is the truth? In the face of scientific research, more than 70% of teachers said that they would think of an attractive topic and write the plan innovatively, practically

and forward-looking, but only 54% of them were interested in these topics, more in order to achieve the target. In response to the interviewee's mention of the promotion rules composed of paper indicators in China, teachers have no time to do the research they are interested in. Many teachers spend their research time on trivial matters such as writing tenders, running relationships and reimbursing invoices. A large number of teachers are trapped by the existing evaluation mechanism to invest in research. There is nothing wrong with research itself, but the investment in scientific research is obviously unsatisfactory compared with the effectiveness of scientific research. The original intention of academic survival and project survival naturally affects the research efficiency, the quality of scientific research and the low academic innovation. Teachers in a university forum said that it was difficult for young teachers to publish articles, because teachers need articles to evaluate their professional titles, but the magazine saw that teachers' professional titles were not high, even if they did not look at them. If you can't publish an article, you can't get a title, and if you can't gallop, you can't publish an article. [18-21].

4.3. Insufficient evaluation system

The scientific research function of universities is naturally very important. As universities become more and more social centers, universities become more and more the power station of social development through their own scientific research. However, with the passage of time, the universities that originally had to pursue purely here began to attach importance to each other's rankings. With the emphasis on university rankings, it also gave birth to the scientific research evaluation system for university teachers. Systematic literature analysis shows that in the 1980s, for the first time, the Institute of Scientific and Technological Information of China has introduced SCI into the new world. For the first time, the domestic humanities academic field has its own quantitative evaluation index. Various core journals are the main indicators for evaluating teachers' scientific research level. This year, there are more literature adjustments, and even a statement from Wuhan University. If the college entrance examination is the baton before everyone becomes an adult, then after entering the university, for those who stay in the university to teach, these are like the college entrance examination, directing the direction of university teachers. Evaluation lacks motivation. Good evaluation should encourage teachers to rise up and love teaching. The results show that more than 60% of young teachers will put the subject before teaching students, 67.8% of them admit that "the quality of teaching will not affect promotion", and the evaluation lacks human nature. The practice of "scientific research is everything" makes most university teachers become tools for making papers, just like workers on the assembly line. When university teachers become a member of the assembly line, they only need to make corresponding products according to the established route, and they can get secular rewards. The evaluation of teachers is not based on the needs of people, starting from the law of talent growth, without considering the care of people. Doing research requires a pure heart and a special purity. Utilitarianism drives little or no real research. Moreover, everyone seems to be standing in front of the judges equally, without knowing where the results come from and which is the most valuable real scholar, it is difficult to guarantee its impartiality. The evaluation lacks comprehensiveness. A good evaluation should be comprehensive and promote the free and harmonious development of human beings. However, the current evaluation methods are creating one-dimensional teachers and one-sided people. "As long as the mechanisms that should support spiritual life become shallow themselves, these mechanisms will in turn affect the society that has brought it into this state and force it to lose its spirit." [22-27].

4.4. Economic pressure of life

Both the questionnaire and the systematic literature analysis show that young college teachers are a high-pressure group. Eighty-seven percent of the respondents felt pressure, 43% of them thought that "pressure is very high", and more than 50% of the teachers surveyed had a certain degree of job burnout. In our communication with teachers, we also find that, as mentioned above, teachers are alienated from their mission and the survival and development of teachers are alienated from their true nature, which brings about the alienation of living conditions, and the development is not free, comprehensive and efficient. Teaching and educating people, reading and learning should be the way of existence of university teachers themselves. It is a natural way for a person to know who he is and what he should do, but when it is difficult to balance teaching and educating people with scientific research, and when the pressure of scientific research is greater, teachers naturally choose to devote more energy to scientific research. However, once the teacher's bounden duty of imparting knowledge and dispelling doubts is missing, the teacher will lose his true nature. At present, the salary of university teachers in Guizhou is generally between 4000-6000 RMB, the house price is about 10000 RMB, the pressure of living cost and family expenditure is enormous, teachers are alienated from their profession, the needs of the spiritual world cannot be met in the pursuit of materialization, they lose their poetic and distant soul, and have no inner freedom. In this state, everything related to learning is actually forced energy consumption, passive work cannot experience self-development and promotion. The teacher "feels at ease only when he is out of labour, and at ease when he is in labour. He feels at ease when he is not in labour, and at ease while he is in labour." Therefore, his labor is not voluntary labor, but forced labor.[28-32].

5. Discussion

Whether university teachers have achieved development or not, there must be improvement in teaching. However, whether teaching has achieved comprehensive development or not, it is not enough to only rely on teaching methods and means. Full love for teaching and educating people is a prerequisite for high-quality teaching. Because any activity without the genuine feelings of others cannot achieve success, George Santayana once said that something is interesting because we care about it; The reason why it is important is because we need them. If we have no interest in the world we feel, we will close our eyes to it. Faced with the pressure of scientific research, teachers' investment in teaching is greatly reduced. Even many teachers who love teaching have to use less energy to deal with teaching and lack the courage to give full enthusiasm to teaching. But our name is 'Teacher', why become a teacher without teaching? We need courage and enthusiasm, full of passion, to persist in teaching, to return to the stage where we are teachers, to lead and inspire lives, we need to be true teachers. When the progress of institutional reform is slow and various external measures are insufficient to stimulate teachers' deepest enthusiasm for teaching, it is necessary to find the deep love of teaching in the hearts of teachers. Education itself is a career that aligns with the soul, and it requires the participation of the soul. Teaching and crafting cannot accomplish the task of cultivating individuals. Before we wandered around the imperfect evaluation framework and struggled in the conflict between research and teaching, our self-awareness of the teacher's mission, realizing that teaching and educating people is the original and core mission of university teachers, will help us regain teaching courage and enthusiasm, and listen to the call of our inner world. We can try the following changes and improvements [33-38].

5.1. Improvement of self-awareness

When we talk about the development of university teachers, it is actually a matter of people. No

matter when, we must start from people and understand all issues related to them. Getting to know oneself "should be the first activity in a person's life. A life without thinking is not worth living. People must know themselves, understand the basis and reasons for living this way, ask questions about life itself, transcend various trivial experiences, and integrate scattered experiences. Therefore, in order to awaken the sense of mission in the hearts of teachers, it is also necessary to understand the sense of mission as a teacher from a human perspective. It is necessary to guide teachers to understand "people" and think about what it means to be human. Only in this way can we recognize our mission. We must be clear: once we are called university teachers, what does this mean to us? Only by reflecting on this identity can one identify with the corresponding mission it brings. University teachers are representatives of university culture. In a broad sense, university teachers are actually an ancient professional university teacher who is a model of great personality. The group of university teachers has been a beacon on the sea since its inception, serving as a presence of thought and spirit. Construct students' knowledge system and spiritual realm. Even though not all university teachers have become masters, not all of them are great masters or masters, since China has established its own universities, each professor with great knowledge is first and foremost a monument of great personality, dedicated to the education cause of our country and devoted his whole life. Especially today, our college teachers train qualified builders and successors for the cause of Socialism with Chinese characteristics. When working for such a great and common goal, they must have the mind of the world, and have a big pattern and personality. Only in this way can they echo such a great goal and achieve the great goal. In this way, university teachers trace their own identity and find their spiritual roots, which will generate awe and recognition of their identity, stimulate their love for the education industry, generate a strong sense of pride and confidence as teachers, and awaken a sense of self-awareness towards the mission they undertake, As Marx said, "If we through calm research, recognize the full weight of the chosen profession, understand its difficulties, and remain passionate about it, we still love it, and feel that we are suitable for it, then we should choose it. At that time, we will not be deceived by passion, nor will we rush to pursue it [39-43].

5.2. Synchronization of knowledge and morality

College teachers must be able to tell stories. People use narrative to explain how things happen, and it is also a way to shift from self-awareness to telling others. When the narrator meticulously narrates what he said, what others said, and what happened next, he is telling a moment of special significance to him. How narrators express their history, what they emphasize and ignore, what roles they appear as, and the relationship established between narrators and listeners in story telling all affect how individuals state their lives. By searching for meaning in experience and expressing it, the narrator not only allows the listener to experience this experience, but also reflects on the experience itself. Narration in this sense is not only about storing information, but also about how individuals view experiences, organize memories, and construct every segment of life. Teachers can write work logs, narrate records and reflections on academic progress, feelings about teaching activities, especially those with touching significance, such as a heartfelt communication with students, feedback from wonderful after-school students, the joy of success in an experiment or creation, describe and organize specific life experiences and stories, and reveal truths that are easily filtered out or forgotten, Teachers can all enter their own inner world, reflect in narration, realize through reflection, and find the sense of mission deep in their hearts through enlightenment, thus radiating the passion of mission consciousness. Role models are the strength for life to move forward steadily. In the example, we will have awe, admiration, and willingness to become such a person. A sense of Moral obligation arises spontaneously. In a broad sense, the first great teachers

are Socrates and Confucius, and those academic masters are the pride and example of our college teachers. These spiritual role models call us to come together and become such beautiful people. The power of culture inevitably comes from the sea of books, and teachers are the ones who teach, and they should be inseparable from reading. We need knowledge beyond what we teach to support educational life and awaken our sense of mission. What is needed is not only the theory of education, but also a reading of the humanistic world. University teachers need to "ask questions from the mountains of books", which should be the belief and pursuit of every university person. They should be filled with infinite love for intelligence like Socrates. Teachers can only consider reading and pursuing learning as a way of survival, constantly reading and practicing, and through these extensions of their own experience and spiritual world, there are more comprehensive ways to grasp the world, not only scientific, but also ethical, aesthetic, and philosophical. The historical way of grasping the world together makes the world we see no longer abstract symbols.[44-51]

5.3. Establishing personalized evaluations

If teachers want to truly make continuous progress and development, they cannot rely on mandatory administrative management. They must have grown up in an environment full of human care. As Clark Cole pointed out, The foundation of teacher creativity is To protect and consolidate surrounding institutions, universities need to create an environment that gives their faculty a sense of stability - they should not be afraid of constantly changing their work distractions; a sense of security - they should not worry about attacks from outside their doors; a sense of continuity - they should not worry about significant chaos in the structure of their work and life; a sense of equality - they should not suspect others To treat it better. Ensure the social and economic status of teachers, reduce their mental pressure, provide a good ecological environment for their love for the profession of teaching, and build a fair, tolerant, and positive institutional environment. We should provide good development platforms and opportunities for teachers' development, so that teachers can have the opportunity to participate in high-level training and obtain learning opportunities, not only for learning knowledge in professional fields, but also for strengthening the study of Marxist theory for teachers in all fields, with a view to improving the awareness of teachers in Socialism with Chinese characteristics, and enhancing their confidence in the road, theory, system, and culture, Inspire the pride of teachers as builders and creators of the great era from the perspective of history and the country, in order to inspire their sense of mission, generate professional passion and development vitality. Pay attention to personalized evaluation. The evaluation system that only focuses on scientific research limits the comprehensive development of teachers, leading to a trend of homogenization among higher education teachers. It also makes it difficult for university teachers to truly develop their potential and take the path of characteristic development based on their own characteristics. At present, although some schools also pay attention to teaching evaluation, the requirements of the teaching route are too high, and there is often a need for provincial-level rewards. Such rewards are few and cannot motivate teachers to teach and study seriously. This eight part style of literary and academic style evaluation can no longer motivate teachers to develop comprehensively, or even unidirectionally. We very much need good teachers who are both knowledgeable and virtuous, who are both experienced and talented teachers. Therefore, we must consider the individual characteristics and strengths of teachers. As some teachers in the interview said, "Should we encourage those who like to do or are good at doing what they want to do, rather than forcing them to do it? Should we advocate for those who enjoy teaching to do it, and those who feel like they are research materials to do it? The top level of the school should design classified assessments and have equal opportunities for improvement." Only in this way can teachers feel motivated and revitalize their sense of mission. Focusing solely on

quantitative results is indeed easy to operate, but it is difficult to evaluate the true talent and learning of teachers, and even breed corruption, making it even more difficult to motivate teachers' sense of mission and development willingness. A process evaluation should be conducted. Emphasizing the effectiveness of educating people and valuing genuine talent and practical learning, for example, evaluating teachers' teaching and academic level through regular defense, and understanding teachers' level through interviews with students to ensure comprehensive, objective, and fair evaluation. Pay attention to motivational evaluation. We should encourage those good teachers who devote themselves to educating and studying in various ways. After all, the ideal university should be what it looked like when it was born: spiritual independence, Freedom of thought, and the pursuit of truth. Among them, university teachers should be role models of personality and knowledge, pursuing truth with a pure heart and inheriting it. However, if such a teacher is ignored in the evaluation system, it will inevitably attack teachers' professional enthusiasm and hinder teachers' sense of mission. If university teachers do not practice morality, learn more than they want, and become infected by popular culture, Academic dishonesty will inevitably grow. Not only teachers themselves have not been developed, but also students suffer from it, and national interests are damaged. Therefore, it is necessary to change the current frequent and overly quantitative evaluation methods. It is recommended to conduct comprehensive evaluation, extend the evaluation cycle, optimize the evaluation system, and make every effort to evaluate teachers on a historical scale to motivate teachers: whoever is striving for the great rejuvenation of the Chinese nation is the good old teacher of today. Only in this way can teachers magnify the pattern, not be pursued by a single evaluation, and regain the global sentiment and childlike heart that intellectuals should have, so that mission consciousness quietly comes. Furthermore, under the stimulation of mission consciousness, teachers are focused on improving their comprehensive abilities and experiencing free and comprehensive development that adapts to the construction of a society with Chinese characteristics in the new era. [52-59]

6. Conclusions

Colleges and universities should become the power station of personnel training and the backbone of social progress. As one of the core of colleges and universities, college teachers need to constantly improve their level. Moreover, people have the nature to develop themselves, especially university teachers as senior talents, who are eager for continuous development in their hearts. College teachers are obviously such an independent and creative profession, which should develop creatively with independent personality, and the development of college teachers should not be passive. However, according to the questionnaire and systematic literature analysis, influenced by various factors, most of our university teachers have not really got rid of the pressure, are in passive development, and even have not achieved development. Whether a person has been recognized in the secular sense is different from whether he has achieved real development. It is not that with secular success, people will inevitably have development and progress. Therefore, the vast majority of university teachers who are limited by the environment and individuals have not really brought their potential into full play, and are full of passion for sustainable development, towards free and all-round development.

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References

- [1] Fred A. Korthegan. *In Search of the Essence of a Good Teacher: Towards a More Holistic Approach in Teacher Education* [J]. *Teaching and Teacher Education*, 2004(20), 77-97.
- [2] National Education Association. *Faculty Development in Higher Education: Enhancing a National Resource*[R]. Washington, D.C.: National Education Association, 1991:11.
- [3] Kerlind, G. S. and Ayrooz, C. *Understanding Academic Freedom: The Views of Social Scientists*[J]. *Higher Education Research and Development*, 1994, 22 (3): 327-344.
- [4] Gerlese S., A kerlind. *Academia growth and development How do university academics experience it* [J]. *Higher Education, Springer* (2005) 50:1-32.
- [5] N. William Newsom. *Teacher Loyalty Oaths and Related Issues* [J]. *Peabody Journal of Education*, 1953, 32(3) :174-179.
- [6] Nel Noddings. *An Ethic of Caring and Its Implications for Instructional Arrangements* [J]. *American Journal of Education*, 1988, 96(2):215-230.
- [7] Ernest L Boyer. *Scholarship Reconsidered: Priorities of the Professoriate* [M]. Princeton: The Carnegie Foundation for the Advancement of Teaching, 1990.
- [8] Ellwood Patterson Cubberley. *Public Education in the United States* [M]. New York: General books LLC, 2009.
- [9] Mosca Gaetano. *The Ruling Class* [M]. New York: McGraw-Hill, 1939.
- [10] Pareto Vilfredo. *The Mind and Society (The 3rd vol)* [M]. London: Jonathan Cape, 1935.
- [11] Machado, C.F.; Davim, J.P. *Sustainability in the Modernization of Higher Education: Curricular Transformation and Sustainable Campus—A Literature Review*. *Sustainability* 2023, 15, 8615. <https://doi.org/10.3390/su15118615>
- [12] Waas, T.; Hugé, J.; Verbruggen, A.; Wright, T. *Sustainable development: A bird' eye view*. *Sustainability* 2011, 3, 1637-1661. [Google Scholar] [CrossRef]
- [13] Ruggerio, C. *Sustainability and sustainable development: A review of principles and definitions*. *Sci. Total Environ.* 2021, 786, 147481. [Google Scholar] [CrossRef]
- [14] Rodrigues. V. *Desenvolvimento Sustentável: Uma Introdução Crítica; Principia: Parede, Portugal, 2009*. [Google Scholar]
- [15] Ozili, P. *Sustainability and sustainable development research around the world*. *Manag. Glob. Transit.* 2022, 20, 259-293. [Google Scholar] [CrossRef]
- [16] Lozano, R. *Envisioning sustainability three-dimensionally*. *J. Clean. Prod.* 2008, 16, 1838-1846. [Google Scholar] [CrossRef]
- [17] Roorda, N. *Fundamentals of Sustainable Development*; Routledge: London, UK, 2012. [Google Scholar]
- [18] Roorda, N. *The seven competences of a sustainable professional: The RESFIA+D model for human resource management (HRM), education and training*. In *Management for Sustainable Development*; Machado, C., Davim, J.P., Eds.; River Publishers: Aalborg, Denmark, 2016; pp. 1-42. [Google Scholar]
- [19] Hediger, W. *Weak and strong sustainability, environmental conservation and economic growth*. *Nat. Resour. Model.* 2006, 19, 359-394. [Google Scholar] [CrossRef]
- [20] Sidiropoulos, E. *Education for sustainability in business education programs: A question value*. *J. Clean. Prod.* 2014, 85, 472-475. [Google Scholar] [CrossRef]
- [21] Barua, A.; Khataniar, B. *Strong or weak sustainability: A case study of emerging Asia*. *Asia-Pac. Dev. J.* 2016, 22, 1-31. [Google Scholar] [CrossRef]
- [22] Bertella, G. *Discussing tourism during a crisis: Resilient reactions and learning paths towards sustainable futures*. *Scand. J. Hosp. Tour.* 2022, 22, 144-160. [Google Scholar] [CrossRef]
- [23] Abu-Alruz, J.; Hailat, S.; Al-Jaradat, M.; Khasawneh, S. *Attitudes toward pillars of sustainable development: The case for University Science Education students in Jordan*. *J. Teach. Educ. Sustain.* 2018, 20, 64-73. [Google Scholar] [CrossRef]
- [24] Spangenberg, J.H. *Reconciling sustainability and growth: Criteria, indicators, policies*. *Sustain. Dev.* 2004, 12, 74-86. [Google Scholar] [CrossRef]

- [25] Thomas, K.D.; Muga, H.E. Sustainability: The new 21st century general education requirement for engineers. In *Developments in Engineering Education Standards*; Rasul, M., Ed.; IGI Global: Hershey, PA, USA, 2012; pp. 263-284. [Google Scholar]
- [26] Stephens, J.C.; Hernandez, M.E.; Román, M.; Graham, A.C.; Scholz, R.W. Higher education as a change agent for sustainability in different cultures and contexts. *Int. J. Sustain. High. Educ.* 2008, 9, 317-338. [CrossRef]
- [27] Ferrer-Balas, D.; Adachi, J.; Banas, S.; Davidson, C.I.; Hoshikoshi, A.; Mishra, A.; Motodoa, Y.; Onga, M.; Ostwald, M. An international comparative analysis of sustainability transformation across seven universities. *Int. J. Sustain. High. Educ.* 2008, 9, 295-316. [CrossRef]
- [28] Correia, P.R.M.; Valle, B.X.; Dazzani, M.; Infante-Malachias, M.E. The importance of scientific literacy in fostering education for sustainability: Theoretical considerations and preliminary findings from Brazilian experience. *J. Clean. Prod.* 2010, 18, 678-685. [CrossRef]
- [29] Nomura, K.; Abe, O. Higher education for sustainable development in Japan: Policy and progress. *Int. J. Sustain. High. Educ.* 2010, 11, 120-129. [CrossRef]
- [30] Ryan, A.; Tilbury, D.; Corcoran, P.B.; Abe, O.; Nomura, K. Sustainability in higher education in the Asia-pacific: Developments, challenges and prospects. *Int. J. Sustain. High. Educ.* 2010, 11, 106-119. [CrossRef]
- [31] Su, H.J.; Chang, T.-C. Sustainability of higher education institutions in Taiwan. *Int. J. Sustain. High. Educ.* 2010, 11, 163-172.
- [32] López, O.S. Creating a sustainability university and community through a common experience. *Int. J. Sustain. High. Educ.* 2013, 14, 291-309. [CrossRef]
- [33] Bilodeau, L.; Podger, J.; Abd-El-Aziz, A. Advancing campus and community sustainability: Strategic alliances in action. *Int. J. Sustain. High. Educ.* 2014, 15, 157-168. [CrossRef]
- [34] Vagnoni, E.; Cavicchi, C. An exploratory study of sustainable development at Italian universities. *Int. J. Sustain. High. Educ.* 2015, 16, 217-236. [CrossRef]
- [35] Davim, J.P. (Ed.) *Sustainability in Higher Education*; Elsevier: London, UK, 2015. 110. Davim, J.P.; Leal Filho, W. (Eds.) *Challenges in Higher Education for Sustainability*; Springer: Berlin/Heidelberg, Germany, 2016.
- [36] Berzosa, A.; Bernaldo, M.O.; Fernández-Sánchez, G. Sustainability assessment tools for higher education: Na empirical comparative analysis. *J. Clean. Prod.* 2017, 161, 812-820. [CrossRef]
- [37] Mawonde, A.; Togo, M. Implementation of SDGs at the University of South Africa. *Int. J. Sustain. High. Educ.* 2019, 20, 932-950. [CrossRef]
- [38] Azeiteiro, U.; Davim, J.P. (Eds.) *Higher Education and Sustainability: Opportunities and Challenges for Achieving Sustainable Development Goals*; CRC Press, Taylor & Francis: Boca Raton, FL, USA, 2020.
- [39] Arocena, R.; Sutz, J. Universities and social innovation for global sustainable development as seen from the south. *Technol. Forecast. Soc. Change* 2021, 162, 120399. [CrossRef] [PubMed]
- [40] Amiano Bonatxea, I.; Gutiérrez-Goiria, J.; Vazquez-De Francisco, M.J.; Sianes, A. Is the global reporting initiative suitable to account for university social responsibility? Evidence from European institutions. *Int. J. Sustain. High. Educ.* 2022, 23, 831-847. [CrossRef]
- [41] Machado, C.; Davim, J.P. (Eds.) *Higher Education for Sustainable Development Goals*; River Publishers: Aalborg, Denmark, 2022.
- [42] Machado, C.; Davim, J.P. Higher Education for Sustainability: A Bibliometric Approach—What, Where and Who Is Doing Research in This Subject? *Sustainability* 2022, 14, 4482. [CrossRef]
- [43] Machado, C.; Davim, J.P. (Eds.) *Higher Education for Sustainability: The Portuguese Case*; Springer: Berlin/Heidelberg, Germany, 2023
- [44] Machado, C.F.; Davim, J.P. Higher Education for Sustainability in Portugal: A Glimpse about What Has Been Studied and Published. In *Higher Education for Sustainability: The Portuguese Case*; Machado, C., Davim, J.P., Eds.; Springer: Berlin/Heidelberg, Germany, 2023; pp. 165-179.
- [45] Caria, A.; Leal, C.; Machado, C.; Oliveira, B.; Oliveira, L. Sustainability in Portuguese higher education institutions. In *Higher Education for Sustainable Development Goals*; Machado, C., Davim, J.P., Eds.; River Publishers: Aalborg, Denmark, 2022; Chapter 3; pp. 43-81.
- [46] Machado, N.S.; Silveira, A.; Weber, J.; Petarnella, L. Higher education and sustainability: Understanding of the managers of a higher education institution. *Rev. Cienc. Adm.* 2018, 20, 42-54. [CrossRef]
- [47] Iqbal, Q.; Piwowar-Sulej, K. Sustainable leadership in higher education institutions: Social innovation as a mechanism. *Int. J. Sustain. High. Educ.* 2022, 23, 1-20. [CrossRef]
- [48] Markauskaite, L.; Carvalho, L.; Fawns, T. The role of teachers in a sustainable university: From digital competencies to postdigital capabilities. *Educ. Technol. Res. Dev.* 2023, 71, 181-198. [CrossRef]
- [49] OECD. *International Summit on the Teaching Profession: Teaching for the Future: Global Engagement, Sustainability and Digital Skills*; OECD Publishing: Paris, France, 2023. [CrossRef]
- [50] Tripon, C.J.S. Supporting Future Teachers to Promote Computational Thinking Skills in Teaching STEM—A Case Study. *Sustainability* 2022, 14, 12663. [CrossRef]

- [51] Zeegers, Y.; Clark, I.F. Students' perceptions of education for sustainable development. *Int. J. Sustain. High. Educ.* 2014, 15, 242-253. [CrossRef]
- [52] Garrecht, C.; Bruckermann, T.; Harms, U. Students' decision-making in education for sustainability-Related extracurricular activities-A systematic review of empirical studies. *Sustainability* 2018, 10, 3876. [CrossRef]
- [53] Aslam, S.; Parveen, K.; Alghamdi, A.; Abbas, S.; Shah, A.H.; Elumalai, K.V. Hopes for the future: Capturing the perspectives of students on Higher Education and Sustainable Development in the post-pandemic era. *Sustainability* 2022, 14, 12531. [CrossRef]
- [54] Shephard, K. Higher education for sustainability: Seeking affective learning outcomes. *Int. J. Sustain. High. Educ.* 2009, 9, 87-98. [CrossRef]
- [55] Desha, C.J.; Hargroves, K.; Smith, M.H. Addressing the time lag dilemma in curriculum renewal towards engineering education for sustainable development. *Int. J. Sustain. High. Educ.* 2009, 10, 184-199. [CrossRef]
- [56] Watson, M.K.; Lozano, R.; Noyes, C.; Rodgers, M. Assessing curricula contribution to sustainability more holistically: Experiences from the integration of curricula assessment and students' perceptions at Georgia Institute of Technology. *J. Clean. Prod.* 2013, 61, 106-116. [CrossRef]
- [57] Green, T.L. Teaching (un)sustainability? University sustainability commitments and student experiences of introductory economics. *Ecol. Econ.* 2013, 94, 135-142. [CrossRef]
- [58] Stubbs, W. Addressing the business-sustainability nexus in postgraduate education. *Int. J. Sustain. High. Educ.* 2013, 14, 25-41. [CrossRef]
- [59] Lozano, R.; Barreiro-Gen, M.; Lozano, F.; Sammalisto, K. Teaching sustainability in European higher education institutions: Assessing the connections between competences and pedagogical approaches. *Sustainability* 2019, 11, 1602. [CrossRef]