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Educational Wastage at vocational training institutions in El Oued Province: Quantitative Analytical study of statistical indicators of the phenomenon

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Abstract :

Vocational training sector is one of the most important tools of the country for the preparation of human capital and the development of individual skills, especially that the latter is among the significant mechanisms of activating economic growth of each society. Despite its importance, vocational training encounters various obstacles that prevent achieving its aims on the individual and the community levels so that it would result in prosperity and progress of the society. One of these obstacles is the phenomenon of educational wastage. Thus, the present study tried to investigate educational wastage at vocational training institutions in El Oued Province (south-east of Algeria) during the period (2013-2015). Results are displayed in tables for easy to read, followed by analyze qualitative analysis for these results.

Keywords: educational wastage-Vocational training- Trainees.

الهدر التربوي بمؤسسات التكوين المهني في ولاية الوادي ”دراسة كمية تحليلية للمؤشرات الإحصائية للظاهرة“

ملخص :

إن قطاع التكوين المهني هو من بين أهم وسائل الدولة لإعداد الرأس المال البشري وتنمية مهارات الفرد، خاصة وأن هذا الأخير يعد من أهم ميكانيزمات تفعيل التنمية الاقتصادية لكل مجتمع، ورغم أهميته نجد أن هناك بعض المعوقات التي تحول دون تحقيقه لأهدافه على الفرد وعلى الجماعة بما يعود على المجتمع والمؤسسات والدولة من ازدهار وتقدم، ومن أهم هاته المعوقات ظاهرة الهدر التربوي، فجاءت هذه الدراسة لتسليط الضوء على الهدر التربوي في مؤسسات التكوين المهني بإحدى ولايات الجنوب الشرقي الجزائري ألا وهي ولاية الوادي وذلك بمعرفة حجم الهدر فيها في ثلاث سنوات الاخيرة "2013-2014-2015"، وسنقوم بعرض نتائجها في جداول لتسهيل قراءتها، وفي الأخير سنقوم بتحليل النتائج تحليلا كيفيا.

الكلمات المفتاحية: الهدر التربوي - مؤسسات التكوين المهني - المتربصين

1. Statement of the problem :

Vocational training sector receives a considerable interest across the world sector as a modern education method. vocational training aims at providing elementary, middle and high school students who have not completed their studies or who have dropped out by the vocational or craftsmanship skills conducive to better preparation of them to become skilled workers. This is evident in light of the fact that "development, in its comprehensive context, depends on the experience gained, knowledge industry and technical skills possessed human capital." ¹Thus, the greatest attention has become focused on the investment in vocational training, in particular that real resource of any organization is human capital who would lead the rest of the factors, or other resources. This investment is accomplished through education and the formation of individuals for the acquisition of the necessary competencies. ²

Despite its importance as well as the huge funds the state of Algeria provide for this sector to empower it, vocational training encounters various obstacles that prevent achieving its aims on the individual and the community levels so that it would result in prosperity and progress of the society. One of these obstacles is the phenomenon of educational wastage that refers to a defect in the functional balance of vocational training process, which makes the inputs of the institution greater than its outputs. Adding to that the deviations and inappropriate behaviors resulting from the problem of educational wastage at vocational training institutions.

Adolescents who drops out of vocational training in the age of (14-18) years old without a certificate qualifying them to work and earn a living are more vulnerable to problem behaviors or mental disorders such as anxiety or depression. Moreover, this phenomenon causes increased unemployment and huge shortage in finding professionals, weakens economic and productive structure of society and individual, and increases the dependency and reliance on third parties to provide needs. This, in turn, reduces the society endeavors, and leads to transferring it attention from the construction, reconstruction,

development, and prosperity towards the attention of reform, treatment and counseling centers, and increased number and expenditures of prisons and hospitals.

Questions of the study

In light of the above, the present study tries to investigate the extent of educational wastage at vocational training institutions in El Oued Province. The study attempted to answer the following main research question: What is the extent of educational wastage at vocational training institutions in El Oued Province for the period (2013-2015)?

In order to answer this question, the study tried to answer the following research questions:

- What is the extent of educational wastage at vocational training institutions according to the variable of type of training for the period (2013-2015)?
- What is the extent of educational wastage at vocational training institutions according to the variable of level of training for the period (2013-2015)?
- What is the extent of educational wastage at vocational training institutions according to the variable of gender for the period (2013-2015)?

2. Operational definitions:

- **Training institutions:** refer to vocational training and apprenticeship institutions existing in El Oued Province (the south-east of Algeria).
- **Training level:** it means the level that involves a certain category of trainees; depending on the level of education required for admission and the certificate they will obtain at the end of training. there are five levels of qualification.
- **Educational wastage:** it refer to the failure or drop out of a number of trainees enrolled in vocational training institutions after admission, thus leaving the training before completion, either automatically or mandatory or, at least, fail completing training as scheduled and spend longer time.
- **Training kinds:** vocational training in Algeria takes place through several patterns: residential training, training via apprenticeship, and distance training. These are as follows:

- ✓ Residential training: This is the traditional form of vocational training. It takes place, theoretically and practically, at vocational training centers, where the majority of enrolled individuals are students who have dropped out from the education sector.³
- ✓ Training via apprenticeship: in this type, the practical aspect takes place at **production units of public or private institutions, and is supported by a theoretical aspect taking place at the institution of vocational training in accordance with Article 10 of Law No. 81-07, dated 07 June 1981.**⁴

3. Review of literature

Attention has been increased in the recent years to vocational training, especially in the industrialized countries as a result of technological change and the evolution of the skills required in the production techniques. In the developing countries, however, the importance of training is more pressing as a result of the desire for rapid industrialization and what this implies of the need to qualified workforce capable of accommodating advanced technologies. This is due to the fact that vocational training is the vital vehicle to gain knowledge and experience in many occupational and professional fields. The following section discusses the main aspects of vocational training.

3.1 The concept of vocational training

Vocational training can be viewed as a set of activities that qualify **individuals and groups to perform their current and future work efficiently for the good functioning of the organization**⁵.

Pierre Casse (1994) defines vocational training as “the process aiming at the development of individual vocational, technological, or behavioral abilities and skills in order to increase their efficiency and effectiveness in the implementation of tasks and roles related to their current or future jobs. It is a way for individual upgrade and the development of human resources, and a necessity to adapt to new technologies and economic constraints, as well as an effective instrument for the management of human resources allowing the growth and development of the institution. Vocational training is, thus, an investment for workers, and should include all members of the organization, including those held responsible⁶.

In similar vein, Boufalja Gyath (2006) looks at vocational training as a set activities designed to ensure access to knowledge, skills, and attitudes to efficiently perform a task or set of functions in an assigned economic activity⁷.

while Vocational Training Guide (2000) and Algerian law in the Ministerial Circular No. 01 dated 10 May 2004 define it as theoretical and practical training in various professional disciplines, designed for all who wish to gain professional efficiency so that they would access to the world of work, as well as the workers who want to improve their knowledge and raise the level of rehabilitation in line with the development witnessed in the labor market.^{8, 9}

In light of these definitions, vocational training may be defined as a set of activities aiming at the acquisition of knowledge, skills, and behaviors that the trainee would acquire at the vocational training institutions by means of theoretical lessons and practical duties that make the trainee able to practice a certain job. This training process involves psychological, technical, and social aspects.

3.2 Aims of vocational training

Vocational training aims at achieving a set of various purposes including the following:

- contributing to greater respect of young people for manual work and craftsmanship,
- developing a sense of responsibility towards the nation and providing those young people with more self-confidence,
- allowing the opportunity to explore the capabilities of the trainees,
- directing the attention of young people who drop out of school toward gainful employment,
- resulting in the recognition of young people that working in the industry and crafts requires skills and technical system, and allows greater opportunities to work than provided by general education alone,
- providing illiterates with the minimum required level of general education in a vocational form, the preparation of the individuals vocationally and training them on an assigned profession by increasing their production

efficiency and helping them acquire new knowledge and skills to invest them as best as possible,

- in addition to helping the individual recognize the relationship between his or her work and others'
- work from one side, and the aim of the employer on the other side, and allowing the opportunity for the trainee to make progress in terms of higher wage and better position¹⁰.

- In brief, it is argued that vocational training aims at the advancement of the individual through the acquisition of theoretical knowledge, scientific capabilities, and practical skills needed for the practice of a craft or a profession.

3.3 Levels of training

- Level 1 ends with a certificate of specialization in vocational training and the worker is entitled specialized worker.
- Level 2 ends with a certificate of professional competence and results in a qualified worker.
- Level 3 gives certificate entitled « Diplômé de maintenance professionnel », and the worker is a highly qualified worker.
- Level 4 gives certificate of technical diploma, where the worker takes the position of technician or super vising assistant.

Level 5 gives a certificate of higher technician diploma where the worker takes the position of superior technician.¹¹

3.4 The concept of educational wastage

Educational wastage refers to the loss in the expenditure and efforts of the educational processes as a result of students' failure or dropout¹². Educational wastage is a result of the poor cost-effective of the educational system that takes the form the system inability to the retention of all enrolled to complete their studies due to school dropout¹³. In parallel, UNESCO defines educational wastage as “what happens to the educational system in a certain country, affecting its efficiency as a result of two factors: school dropout or failure in passing to the next grade¹⁴. Thus, educational wastage can be viewed as a phenomenon manifested in the loss of money, effort, and time devoted to the functioning and development of education and training track. This phenomenon arises for a

number of factors including dropout, academic failure, and low level of achievement.

4. The present study

4.1 Methodology

The present study employs the descriptive analytic approach depending on available data regarding field statistics and formal documents of educational wastage at vocational training institutions in El Oued Province for the period (2013-2015).

Results

The following section presents the results of the present study divided according to the three years covered.

4.2 Educational wastage at vocational training institutions in El Oued Province for the year 2013

A. Wastage at Residential training:

Table (1) ratio of wastage at residential type according to gender for the year 2013

Training level	males	Females	Females %	Males %	Total wastage	Total wastage %
Level 1	00	00	00	00	00	00
Level 2	158	88	%9.92	%12.46	158	22.38%
Level 3	65	36	%9.70	%12.04	65	%21.74
Level 4	00	00	00	00	00	00
Level 5	00	00	00	00	00	00
Total	223	124	%8.91	%11.16	223	%20.07

Results presented in table (1) reveal that the wastage for males at the second level of residential training reached (158) with a percentage of (12.92%), compared to (88) with a percentage of (9.92%) for females. At the third level, the wastage for males reached (65) with a percentage of (12.04%), compared to (36) with a percentage of (7.70%) for females. At the fourth level, the wastage for males reached (0) with a percentage of (0%), compared to (0)

with a percentage of (0%) for females. At the fifth level, the wastage for males reached (0) with a percentage of (00%), compared to (00) with a percentage of (00%) for females. Finally, there was no wastage at the first level. The total percentage of the residential training amounted (20.07%).

B. Wastage at Training via apprenticeship :

Table (2) ratio of wastage at Training via apprenticeship according to gender for the year 2013

Training level	Total number	males	Female	Males%	Females %	Total wastage	Total wastage %
Level 1	30	5	00	%16.67	00	5	16.67
Level 2	757	247	3	%32.63	%0.40	250	33.03
Level 3	298	48	29	%16.11	%9.73	77	25.84
Level 4	00	00	00	00	00	00	00
Level 5	00	00	00	00	00	00	00
Total	1086	300	33	%27.62	%3.04	332	30.57

Results presented in table (2) reveal that there was no wastage for both males and females at the first and fourth levels of training via apprenticeship. At the first level however, the wastage for males reached (05) with a percentage of (16.67%), compared to (00) with a percentage of (00%) for females. At the second level, however, the wastage for males reached (247) with a percentage of (32.63%), compared to (03) with a percentage of (0.40%) for females. At the third level, the wastage for males reached (48) with a percentage of (16.11%), compared to (29) with a percentage of (9.73%) for females. There was no wastage at the fifth and fourth level. The total percentage of the training via apprenticeship amounted (30.57%).

In 2013, the total percentage of wastage for residential and apprenticeship training in El Oued Province amounted (20.70%); with total number of trainees (3927), and those who failed or dropped out were (813) trainees (533 males, and 280 females).

4.3 Educational wastage at vocational training institutions in El Oued Province for the year 2014

A. Wastage at Residential training :

Table (3) ratio of wastage at residential type according to gender for the year 2014

Training level	Total number	male	Females	Males %	Females %	Total wastage	Total wastage %
Level 1	00	00	00	00	00	00	00
Level 2	793	61	66	%7.69	%8.32	127	%16.02
Level 3	231	11	28	%4.76	%12.12	39	%16.88
Level 4	28	00	06	00	%21.43	06	%21.43
Level 5	883	51	62	%5.78	%7.02	113	%12.80
Total	1935	123	162	%6.36	%8.37	285	%14.73

Results presented in table (3) point out that the wastage for females at the second level of residential training reached for males (61) with a percentage of (7.69%), compared to (66) with a percentage of (8.32%). At the third level, the wastage for males reached (11) with a percentage of (4.76%), compared to (28) with a percentage of (12.12%) for females. At the fourth level, the wastage for females reached (06) with a percentage of (21.43%), compared to (00) with a percentage of (00%) for males. At the fifth level, the wastage for males reached (51) with a percentage of (5.78%), compared to (62) with a percentage of (7.02%) for females. Finally, there was no wastage at the first level. The total percentage of the residential training amounted (14.73).

B. Wastage at Training via apprenticeship :

Table (4) ratio of wastage at Training via apprenticeship according to gender for the year 2014

Training level	Total number	males	Females	Males %	Females %	Total wastage	Total wastage %
Level 1	3	00	00	00	00	00	00

Level 2	893	16	289	% 1.79	% 32.36	305	% 34.15
Level 3	289	45	46	% 15.57	% 15.92	91	% 31.49
Level 4	00	00	00	00	00	00	00
Level 5	36	00	00	00	00	00	00
Total	1221	61	335	% 05	% 27.44	396	% 32.43

Results presented in table (4) indicate that there was no wastage for at the first level of training via apprenticeship. At the second level, the wastage for males reached (16) with a percentage of (1.79%), compared to (289) with a percentage of (32.36%) for females. At the third level, the wastage for males reached (45) with a percentage of (15.57%), compared to (46) with a percentage of (15.92%) for females. There was no wastage at the first, fourth and fifth levels neither for males nor females. The total percentage of the residential training amounted (32.43%).

In 2014, the total percentage of wastage for residential and apprenticeship training in El Oued Province amounted (25.26%); with total number of trainees (5132), and those who failed or dropped out were (1390) trainees (985 males, and 405 females).

4.4 Educational wastage at vocational training institutions in El Oued Province for the year 2015

A. Wastage at Residential training

Table (5) ratio of wastage at residential type according to gender for the year 2015

Training level	Total number	males	Females	Males %	Females %	Total wastage	Total wastage %
Level 1	00	00	00	00	00	00	00
Level 2	1180	33	251	% 2.80	% 21.27	284	% 24.07
Level 3	322	36	81	% 11.18	% 25.16	117	% 36.34

Level 4	132	09	43	%6.82	%32.58	52	%39.39
Level 5	344	08	09	%2.33	%2.62	17	%4.94
Total	1978	86	384	%4.35	%19.41	470	%23.76

Results presented in table (5) reveal that the wastage for males at the second level of residential training reached (33) with a percentage of (2.80%), compared to (251) with a percentage of (21.27%) for females. At the third level, the wastage for males reached (36) with a percentage of (11.18%), compared to (81) with a percentage of (25.16%) for females. At the fourth level, the wastage for males reached (09) with a percentage of (6.82%), compared to (43) with a percentage of (32.58%) for females. At the fifth level, the wastage for males reached (08) with a percentage of (2.33%), compared to (09) with a percentage of (2.62%) for females. There was no wastage at the first level. The total percentage of the residential training amounted (23.76%).

B. Wastage at Training via apprenticeship

Table (6) ratio of wastage at Training via apprenticeship according to gender for the year 2015

Training level	Total number	males	Females	Males %	Females %	Total wastage	Total wastage %
Level 1	16	00	03	00	%18.75	03	%18.75
Level 2	1341	33	384	%2.46	%28.64	417	%31.10
Level 3	328	34	83	%10.37	%25.30	117	%35.67
Level 4	00	00	00	00	00	00	00
Level 5	00	00	00	00	00	00	00
Total	1685	67	470	%3.98	%27.89	537	%31.87

Results presented in table (6) indicate that the wastage for females reached (03) with a percentage of (18.75%), compared to (00) with a percentage of (00%) for males. At the second level, the wastage for males reached (33) with a

percentage of (2.46%), compared to (384) with a percentage of (28.64%) for females. At the third level, the wastage for males reached (34) with a percentage of (10.37%), compared to (83) with a percentage of (25.30%) for females. On the other hand, there was no wastage fourth and fifth levels neither for males nor females. The total percentage of the residential training amounted (31.88%).

In 2015, the total percentage of wastage for residential and apprenticeship training in El Oued Province amounted (25.77%); with total number of trainees (7110), and those who failed or dropped out were (1832) trainees (956 males, and 390 females).

5. Discussion

Results indicated point out that the ration of educational wastage at vocational training institutions in El Oued Province, Algeria is significantly high; ranging between (20-26 %) for the period (2013-2015). The researcher attributes this high wastage to the following reasons.

First of all, training conditions, such as the jump in the number of trainees, makes it impossible to provide a position of training within the workshops for all the trainees. In addition, the unavailability of suitable places to carry out successful training places that allow trainees to apply what they have learned in the centers and institutes, makes training conditions the most important factors leading to educational wastage at vocational training institutions.

Lack of educational efficiency of skilled workers who train the trainees, as well as the exploitation of some trainees in actions irrelevant to the topic of training, such as guarding and cleaning.

Despite the efforts and innovation made in the sector of vocational training and apprenticeship in recent years, vocational training through apprenticeship is still suffering a lack of supervision and regulation. Institutions and craftsmen generally consider the trainees low labor cost or free. Thus, this training form has deflected from its original purpose.

vocational training institutions encounter severe difficulties in providing qualified trainers, and thus use instead of them university graduates who cannot

perform this type of training in light of the fact that the nature of university education is not consistent to the vocational training of these institutions. This finding is supported by the study of Salhy and Shotary (2009) entitled “vocational training between the supply specificity and the logic of demand”¹⁵. vocational training in these institutions is generally characterized by a schooling nature; i.e. it includes a prolonged period of theoretical training, which contrasts perfectly with the educational objectives of vocational training that are essentially of practical and pragmatic character.

Poor supervision is another important factor of educational wastage at vocational training institutions. This is consistent with Lang’s (1996) view who argues that incorrect guidance and supervision would result in a set of academic difficulties in the case of directing the learner or trainee to a specialization that is not in line with his or her capabilities, preferences, and interests.¹⁶

Mental health may also be an important factor affecting the level of trainee’s achievement. According to Weiner and Potepan in their study about personal characteristics and emotional reactions to the examinations for outstanding and failed students at the university, the more worried students are less achieving and motivation and more fear of the final exam than the less worried students¹⁷. Thus, Poor motivation and unwillingness to training at many of the trainees in various vocational disciplines because of inappropriate guidance and not to select the specialization according to the trainees interests and abilities. This would result in a sense of frustration because of poor appreciation for education and vocational training professionals leading the trainee to leave training at all. Physical health also affects the training process whether positively or negatively. Many studies reveal that chronic diseases and disabilities may make the trainee feel inferiority, and thus tries to outperform in the study up to offset the shortfall. However, this may be a disincentive; since illness or disability may prevent the individual from completing training.

Another important factor affecting educational wastage is the role of the family. The trainee is often the victim of his or her family environment. Family is also responsible for the physical and psychological status of the individual in terms of promoting or hindering his mental growth and development of

knowledge. Moreover, dysfunctioning families because of divorce or death as well as poor family environment full of conflicts and problems and severe controversies difficult to resolve may result in psychological problems and mental disorders or even forcing the child to leave school. In addition, the low the standard of living for the family largely contributes to trainees' dropout. This is supported by the results of many studies, such as Al-Jeryany and Dahan's (2008) study on educational wastage factors in the public secondary schools, which concluded that major economic factors impacting on educational wastage is low family income.¹⁸

Furthermore, reluctance of young people for vocational training, and if they do, they are compelled to; believing that this is a bad choice with no social or psychological value. This resulted in a feeling of rejection and contempt towards vocational training, making it the last choice for the majority of individuals. This is confirmed by Salehi and Shotary (2009), who emphasized the inferior view of the society for vocational training and its impact on the psyche of the trainee.¹⁹

Finally, the documented increase in terms of educational wastage institutions of vocational training for females than males in most years can be explained in light of the social reality for females; since the female is not subject to the pressures faced by the males in that they are required to accomplishment, to take responsibility, and to spend on family. Females, however, if failed in education or training have a choice to stay home and wait for a suitable husband, which is a supported choice from the part of the family, especially in the southern desert regions.

6. Conclusion

The results of the present study revealed that the percentage of educational wastage at vocational training institutions in El Oued Province, for the last three years (2014-2016) is approximately (30%), which is a very high ratio deserving attention and conducting further studies to determine the real reasons for this phenomenon. Finally, in light of the results reached, the study recommends a set of recommendations for improving the reality of vocational training institutions

and at the same time for reducing their educational wastage. These include the following recommendations and suggestions:

- Conducting further studies and research to investigate the real reasons for educational wastage at vocational training institutions.
- Improving the conditions and environment of workshops where the trainees receive their training.
- Reconsideration of the preparation of the qualified trainers and instructors who can deal with and understand the trainees.
- Development of plans and educational programs suitable for this category to re-raise their mental health levels by increasing their self-esteem.
- regulating television and radio programs to publicize the importance of vocational training, and the value of certificate obtained from this sector.

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