Reflective practice and self-reliance development among nursing students

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Research Article

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Abstract

The nursing student walks through a complex study system in a field full of challenges. He is called upon to embark on a three-year training program that should foster a better link between theory and practice and be part of a professionalization approach, thus ensuring the development of his autonomy. In such a context, taking a step back and questioning the practice on the part of each student remains an area rarely explored. Following the implementation of the competency-based approach, the development of reflective practice (RP) in students and the need to stimulate critical thinking skills in them are a priority.

From this perspective, this study aims to study the development of RP among 200 students from 21 ISPITS (Higher Institute of Nursing Professions and Health Technologies) from different corners of the Kingdom of Morocco. It is done using a questionnaire, the internal validity of which has been approved, sent through the Google Forms platform. As such, this quantitative study will focus on two aspects on the first is descriptive exploratory to study the level of development of RP in ISPITS. The second aims to study the relationship between RP and the development of autonomy among nursing students and to verify the existence of a possible impact on their academic success. The results show a positive impact on the importance given to RP in ISPITS training. Also, the statistical tests demonstrated a positive impact of the RP on the development of autonomy and on the students’ success.

Introduction

This article is indeed in the field of educational engineering. It is centralized on one of the main fields of nursing discipline, that of training. Especially with the reforms that have crossed this field of nursing education and the wind of change that has blown on the teaching/learning strategies adopted by teacher trainers at ISPITS.

In this context, it should be noted that since 2014, the Moroccan Ministry of Health has adopted, after consultation with the various social actors, professional associations, trainers, administrative staff, and faculty, the LMD (Licence, Master, Doctorate) system. The Ministry has implemented a set of accompanying measures at both the pedagogical and organizational levels to achieve this unprecedented reform. It is part of a strategy to upgrade the nursing education system and Health Technology to improve citizens’ quality of health services.

So, nursing students are called to acquire various skills (knowledge, procedures, know-how, and know-how) to develop specific skills to practice a profession that is constantly fraught with challenges.

In this context, the need to evolve individual and collective professional practices obliges everyone to support work on professional identity, the relationship to the institution, knowledge, and change. This leads to an actual process of professionalization (Laramée, 2019). With this discourse on professionalization, in the training environments of professionals, whether in initial or continuing training, everyone speaks of reflexive practice. This unanimity is only apparent because not everyone who publishes on the subject speaks of the same reality (Guillemette 2016).

In nursing, reflective practice stimulates the development of professional judgment in students by encouraging them to consider their practice from a holistic perspective, recognizing the challenges associated with it (Dreifuerst, 2009; Peisachovich, 2016). In addition, she encourages him to explore his experiences to understand them better and carry out learning to transfer them to new situations (Donnaint, Marchand et Gagnayre, 2015).

In this context, the reflexive approach has demonstrated its ability to contribute to professional skills development and is practiced in all types of courses: theoretical or conceptual, practical, internship, and synthesis (La fortune, 2012). In the same vein, Laramée (2019) states that the PR provides the student with a new “telescope” to critically analyze the situations he encounters and the actions he poses. Especially since the latter is called to become reflexive, autonomous practitioners capable of managing any professional situation they may encounter. However, reflexivity is not learned spontaneously or on its own and is not required to be developed or guided in initial training and maintained in continuing training (Gaussel, 2021).

Moreover, a methodical reflexive practice must be part of working time as a routine. Not a sleeping routine, but a paradoxical routine, a state of permanent alert. It needs discipline and methods to observe, write, analyze in the aftermath, and take new options (Perrenoud, 1999). However, some authors consider that this deliberate process of reflection still seems to remain “the exception rather than the rule.” In the same vein, Christopher and Day (2001) attest that for most teachers, formal development opportunities remain sporadic and linked only to periods of in-service training.

In this context, it should be pointed out that training in reflexive practice, if it is not permanent, cannot be limited to the resolution of acute crises, problems, or dilemmas. It is best to think of it as a stable operation, necessary at cruising speed, vital in case of turbulence (Thurler, 1996).

Faced with the multiplicity of pedagogical strategies and the complexity of the practical situations they face during their internships; nursing students must develop their ability to make judgments about their learning. They need to regularly become accustomed to self-assessment to self-regulate their learning and develop their targeted skills, and thus be more autonomous in their learning. In the same vein, training in “nursing” is now part of a new problem: constantly adapting to initiate and contribute to tomorrow’s skills while positioning itself in a more competitive and stiller volatile environment (Gurraud, 2006). With this in mind, students must cultivate their reflection to be competent, that is, according to professional didactics, less deprived in the face of unexpected professional situations (Pastré, 2011; Pastré, Mayen, and Vergnaud, 2006). However, Gagné (2021) reveals that in learning activities, few direct links are made with the development of professional autonomy, whereas this skill is an integral part of the work of the nursing student.

Engaging in reflective practice values professional knowledge and experience from an educational perspective. Similarly, it is a way to leverage the time needed to acquire and apply relevant and valuable new learning. It is not a “professional apprenticeship served while driving” (Curtis, Lebo, Civandes, Carter, 2013). In other words, reflective practice must be integrated into daily practice and various professional learning activities on an ongoing basis. It leads the nursing student to think critically about their professional practice. In addition, it should be pointed out that reflexive practice and autonomous learning go
hand in hand. More importantly, reflective practice can be considered an autonomous learning activity, as it invites reflective students to make informed choices about their autonomous learning activities.

**Research Questions**

From the described context, and because these findings seem legitimate ask the following questions: What is the place given to reflexive practice within the nursing training within the Moroccan ISPITS? Does this PR positively impact the development of autonomy among these students? Can this impact promote the academic success of nursing students?

These questions emerged after several years of professional commitment by the authors of this article. It resulted from findings, observations, exchanges with senior nursing teachers, and analyses developed to improve nursing education.

The following assumptions have been made:

Hp0- There is no correlation between the development of autonomy through reflexive practice and academic achievement;

Hp1- There is a correlation between the development of autonomy through reflexive practice and academic achievement.

**Literature Review**

1. Development of Reflective Practice

Training in reflexive practice is integrated into most training programs as a skill to be developed and, often, as a device designed to promote the construction of the professional identity of any training. However, this reflexive practice is sometimes still considered spontaneous, as it is a capacity that learners naturally have. That said, reflexive practice requires support, or even explicit training (Alexandre, Buyssse, Périsset, and Renaulaud, 2019).

In this sense, several studies confirm the capacity of a reflexive practice intervention to support the development of nursing skills (Clarke, 2014; Dubé & Ducharme, 2014; Forneris & Peden-McAlpine, 2007; Goudreau et al., 2015; Levet-L-Jones, 2007; Nielsen, Staggell, & Jester, 2007). However, to become a reflexive practitioner, Jomas (2018) announces: “... the student needs support. Questioning oneself about one's practice, thinking about one's choices and hesitations, doubting one's achievements are not obvious to all students.”

Although there are many models of reflexive practice, Kolb's model seems to be the most suitable for nursing education because experiential learning theory is at the root of the union of action and reflection since it is represented in a four-dimensional cyclical model: concrete experience, observation (knowledge), reflection (process) and abstract conceptualization (transformation) (Kolb, 1984). Similarly, this learning model emphasizes “the here and now of hands-on experience to validate and test abstract concepts” (Balleux, 2000).

Similarly, reflexive practice can be operationalized in nursing education through a variety of devices, such as group discussions, logbooks, and portfolios, scientific approaches to practice, self-assessment, and case studies (Airisian, Gullickson, Hahn & Farland, 1995; Mansverlder-Longayroux et al., 2007; Zeichner & Liston, 1987). In other words, its development can be produced through writing and through mediation, which is presented in various forms, the most common of which are: professional memories, practical narratives (Ibert, 1994; Cifali, 1996; Kelchtermans, 2001), reflexivity booklet, Donnay (2000).

According to Mercure and Rivard (2016), the concept map allows the spatial representation and organization of the field of knowledge because the student becomes better prepared to reflect, organize his knowledge, optimize his learning, and develop his creativity.

In this context, Balas Chanel (2013) explains that there are two types of collective work in Reflexive Practice are to be distinguished: the group, for a work of the type practice analysis, return from the internship, learning assistance session, preparation of files (PFE, VAE), and the team, for a work of the type debriefing of a work carried out in common (team building, feedback, formative debriefings, behavioral debriefing).

2. Impact of Reflective Practice on the Development of Autonomy

Currently, the learner's autonomy is considered one of the fundamental issues of education in general. Thus, adopting interactive approaches, tools, and teaching methods promotes the determination of the empowerment of student learning (Soussi, 2019). Despite the richness of the definitions, we note that the notion of autonomy in training is confronted at the same time with the complexity and unanimity of the definitions of this concept. In this regard, Tremblay and Eneau (2006) consider that "the concept of autonomy in training has not yet been defined by consensus among researchers" (p. 82).

Brunot and Grosjean (1999) consider the pedagogy of autonomy as being the fact of trying to make the student find his path, to have him build his path. It is a process put in place so that he can respond to a problem that is personal to him, in a situation where there is a real issue” (p. 25). Similarly, Moore (1977) explains that the independent learner is “a person who identifies a need for learning when faced with a problem, a skill to acquire, or information that he or she does not possess. She can articulate her learning need in terms of specific goals and objectives and to more or less explicitly set criteria for achievement” cited by Marcus (2010) (p.28).

In the same sense, Le Coadic(2006) states that all approaches and conceptions of autonomy emanate from the exact origin, that of the reflexivity on which it is based. Indeed, from the Kantian approach to common sense through the work of Durkheim, Elias, and Touraine, autonomy always rests on reflexivity (Le Coadic, 2006). In other words, reflective practice reinforces empowerment since the learner looks at what he or she already thinks he or she knows, perceives
his or her progress, and envisages new goals to be achieved shortly (Benhattar, nd). Based on Jorro’s (2012) writings, the student sees new avenues of action and thus improves his creativity by taking a step back in his posture. Through internal dialogue, self-reflection questions action by reviewing automatic beliefs, assumptions, and thinking patterns, which are so firmly anchored that they are unconsciously activated (Fronty, 2017).

Similarly, self-criticism requires time, a method, and predisposition (Bonnet and Barth, 2017; Lindh and Thorgren, 2016). This discomfort experienced during self-reflection can hinder students’ recourse to reflective practice (Trehan, Rigg, 2005, in Fronty, 2017: 75). Reflexivity requires time in opposition to the continuous movement in which the practitioner is frequently involved (Bonnet and Barth 2017: 48–49). As a result, “reflexive arrest” is a condition that facilitates the construction of meaning and knowledge for the future graduate (Schaeffer, 2002).

Reflective practice is an active and deliberate process of critical examination that allows the student to enter into a reflexive spiral of personal transformation that allows him or her to acquire the autonomy to achieve a desired and effective practice (Duffy, 2007). Similarly, L’Ordre des Educateurs à Toronto (2017) indicates that engaging in reflexive practice promotes autonomy and reinforces the well-being and development of student leadership. Reflective practice can also lead nursing students to develop coping strategies and problem-solving skills and increase their endurance to continue in a complex and dynamic profession. The training of nurses is now part of a new problem: constantly adapting to initiate and support the development of the skills of tomorrow while positioning itself in a much more competitive and still volatile environment (Guerraud, 2006).

In the face of the significant challenges faced by health care personnel and, in this case, nurses, commitment to quality, efficient approach, concern to provide responses adapted to the needs and expectations of clients is an urgent obligation. In this way, nursing students are required to develop the ability to judge their learning when faced with the multiplicity of pedagogical strategies and the complexity of the practical situations they have to face during their internships. They need to get used to self-assessing regularly to self-regulate their learning and develop their targeted skills.

From this point of view, the training of health professionals, including nursing, is now part of a new problem: constantly adapting to initiate and contribute to the development of tomorrow’s skills while positioning itself in a more competitive and still volatile environment (Guerraud, 2006). With this in mind, the constant changes in the world are forcing practitioners to cultivate their reflection in order to be competent, that is, according to professional didactics, less deprived in the face of new professional situations (Pastré, 2011; Pastré, Mayen, & Vergnaud, 2006).

Teaching methods became more varied and associated with several learning styles (e.g., styles [Kolb, 1984], from practical experience to reflective observation for “reflective” pupils, from reflective observation to conceptualization for “theoreticians,” from conceptualization to active experimentation for “pragmatists,” and from experimentation to experience for “accommodators”). However, shortly after this reform, which created a real problem: students, especially in the first year, had difficulty in recognizing the objectives and were slow to commit themselves and to be operational in certain educational activities, to take responsibility for this new learning paradigm.

Engaging in reflective practice enhances your professional knowledge and experience as part of continuous professional learning. It also promotes the time needed to acquire and apply relevant and valuable new learning. It is not a “professional apprenticeship served while driving” (Curtis, Lebo, Civandes, Carter, 2013). Engaging in reflective practice takes time and can be difficult as the practitioner develops new ideas and faces tensions and challenges in your practice. Ideally, reflective practice must be integrated into daily practice and continuous professional learning activities to be successful.

On another level, several authors have revealed that reflective practice and independent learning go hand in hand. More importantly, reflective practice can be considered an independent learning activity, as it helps to make informed choices about independent learning activities.

In nursing education, the reflective practice offers students the opportunity to analyze their practice, understand their patterns of thought, and analyze their beliefs and social benchmarks about current societal and nursing-specific issues in cultural diversity. They develop independent thinking and advance their clinical judgment and practice in general (Mezirow, 1997; Pépin, Kérouac, and Ducharme, 2010).

Balas-Chanel (2014) explains that this pedagogy, which encourages the student to return to concrete situations he has experienced to build knowledge and skills, is essential for any training that combines theoretical and practical approaches. It also states that the benefit of Reflexive Practice, for nursing students, comes from the mental gestures it asks them: a) Wondering about their own practice, b) Appropriating their own experience, c) Putting at a distance what happens to them, to better understand it, d) To become aware of the way he learns, to learn how to learn, - To become aware of the way he acts, as a nurse, to become a nurse, e) To reflect on his physical, mental action, his decision-making, to understand the often implicit but powerful springs of this, f) Extend reflection in action to reflection on action and on what drives it more or less consciously, g) Analyze a situation, asking: “How did I, too, contribute to what happened?” h) Building the positive, from events (positive or not) asking yourself, “Whatever happens to me, what does it teach me?” i) Build on the past to see the future better equipped, more “educated”, j) Build on this new knowledge to produce adapted behaviours in ever new situations, k) To build a thoughtful and evolutionary professional identity, l) To become a “reflexive practitioner”, m) To become autonomous, and n) To build knowledge, beyond existing theories, to be a “research practitioner”.

To ensure the effectiveness of reflective practice, Barriault (2016) points out that context and intentions need to be clarified so that the trainee is aware of the learning process and feels safe in this approach. In other words, the person overseeing the process must also look at his or her skills to stimulate the reflective practice and assess her or her coaching expertise.

3. Reflective Practice and Academic Achievement

Academic success or failure is closely linked to his or her relationship to knowledge, that is to say to the relationship of meaning and value he or she confers on the student (Bautier, Charlot & Rochex, 2000). Indeed, Reflexive Practice is as interested in successes as errors or difficulties. The one on success allows for
understanding what works when it works and the appropriation of "good practices." By reversing one's mistakes, without complacency but with benevolence, it becomes possible to understand how and why one arrived at this result and thus to imagine new and more effective strategies (Balas-Chanel, 2013).

Maddage and Jonquet (2018) find, through their study, that successful students have developed a panel of postures that they adapt according to the situation. In the same sense, these authors pointed out that students mainly use the postures: of creative, academic, and reflective in the context of successful discipline. According to the same reference, the student in check still tries to enter into a reflexive approach to better target and understand the causes of his failure.

In the same line of thinking, Lafortune (2012) states that reflexive analysis is a way to break away from one's practice to take a critical look at one's learning, professional practices, and judgments. This distance from his practice allows him, on the one hand, to become aware of certain aspects of his practice and, on the other hand, to adjust his actions which leads him to make different decisions.

A reflective activity promotes students' ability to think like a "nurse" (Wheeler, Butell, Langford, Taylor, Epeneter, 2016). In this regard, Dubé (2012) evaluated a reflective practice intervention among nurses working with seniors. According to this author, introspection, openness to others, and critical analysis are skills nurses have developed through this reflective practice intervention.

In the same vein, reflexive practice stimulates the development of metacognition. It is indeed considered one of the best preachers of academic success. It rightly reflects the student's ability to reflect on his or her knowledge and understand the reasoning he or she engages to use it to build new knowledge. Hence the importance of making students aware of their learning strategies in the face of each professional situation (Delvolvé, 2006).

In this way, it allows him to improve his pedagogical approaches, which will positively impact the student's learning and success (Marzano, 2012). These three dimensions follow a causal relationship, as illustrated in Fig. 1.

In the same sense, it should be clarified that through reflexive practice, the teacher himself manages to build an effective model of practice in which the changes he makes lead to the transformation of his practice (Lafortune, 2008). Moreover, Barriault (2016) argues that it is essential to adopt a reflexive and critical stance towards their practice to optimize teachers' professional development and thus promote students' success.

**Methodology**

**1. Design and Procedure**

A quantitative analysis was carried out in this study to evaluate the data through statistical software to obtain precise inferences and generalize the results (Malhotra and Bouguerra, 2007). In this sense, this study created moments of retreat and spaces for reflective dialogue about their learning during their nursing training. It has led them to a remarkable awareness of their strategies, learning methods, and tools that are stimulators of their reflexivity to subsequently deduce their impact on the development of autonomy and promote academic success among nursing students.

Thus 200 students spread over the various ISPITS of the Kingdom of Morocco were invited to participate in this study. These students represent the different options and streams of nursing education.

Of course, everyone thinks to act during and after the auction, but this reflection does not necessarily lead to learning. For this reason, a two-h training session was conducted via Google Meet for the benefit of the study participants, for a clarification of the notion of Reflexive Practice and its different models. This support was necessary to eliminate ambiguities and to seek their participation in the study after free and informed consent.

The study was then carried out via an online "Google-form" questionnaire. The choice of this tool comes down to the fact that it allows the simple and wide dissemination of the questionnaire via a link. Students were asked to answer the questionnaire for the first time; then, a reminder was carried out a week after the first mailing to allow the participation of a significant sample. The answers are compiled on the Google-form platform. An Excel spreadsheet was used to extract the data. Data processing is thus done initially through exploratory quantitative analysis using the functions of the Excel software. The second analytical part was done through the SPSS software.

The questionnaire aims to identify students' reflexive practices, it is anonymous. Respondents first inform their identification regarding age, sex, option, and training ISPITS. Then, the questions are related to reflexive practices; they focus on the contexts and level of its development and its strategies, methods, and tools.

The central question aims to identify the impact of reflexive practice on the development of autonomy among nursing students and deduce the possibility of a possible influence on their academic success subsequently. The various queries on the form allow detailed answers. The Cronbach Alpha test validated the reliability of our questionnaire. In addition, we opted for a confrontation between the theoretical framework analysis and that of the empirical framework to confirm or reverse our formulated hypotheses by adopting a hypothetical deductive approach. Sampling was carried out using probability methods, namely the random stratified sampling technique. In addition, we emphasized the diversity of the sample. It will allow us to expand data collection and a more comprehensive view.

**2. Procedure**

Initially, the questionnaire was tested with 30 students from different ISPITs to verify the clarity of the questions. These students are not included in the study sample.
All students who participated in this study were briefed on the nature and purpose of the research and provided free and informed consent. As a result, the questionnaires were filled out under the appropriate conditions.

### 3. Participants

The richness of this research lies in the diversity of the actors involved. The survey made it possible to question 13 different profiles of nursing students. In this perspective, 200 undergraduate nursing students come from different age groups that range from 18 to 26 years old. Thus, the predominant age category was that between [21–23], which represents almost half (43.5%) of all participants. Moreover, it is the female sex, which predominates with a percentage of 63% of participants.

The option of multipurpose nurse is the most represented with a percentage of 21%, This corresponds to the reality of training at the level of the various ISPITS in Morocco which focuses on this option because of its ability to integrate several specialties and subsequently to allow the winners of this option to work in the various departments and centres. It should be noted that the representativeness of the sample was indeed respected by the integration of the various ISPITS of the Kingdom of Morocco in this study.

### Results And Discussion

#### Table 1. Identification of Students Participating in the Study

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>[18–20]</td>
<td>85</td>
</tr>
<tr>
<td>[21–23]</td>
<td>87</td>
</tr>
<tr>
<td>[24–26]</td>
<td>28</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>126</td>
</tr>
<tr>
<td>Male</td>
<td>74</td>
</tr>
<tr>
<td>Option</td>
<td></td>
</tr>
<tr>
<td>Social worker</td>
<td>12</td>
</tr>
<tr>
<td>Diabetes/Nutrition</td>
<td>6</td>
</tr>
<tr>
<td>Anesthesia and Resuscitation Nurse</td>
<td>19</td>
</tr>
<tr>
<td>Neonatal nurse</td>
<td>11</td>
</tr>
<tr>
<td>Community health nurse</td>
<td>24</td>
</tr>
<tr>
<td>Mental health nurse</td>
<td>19</td>
</tr>
<tr>
<td>Emergency and Critical Care Nurses</td>
<td>21</td>
</tr>
<tr>
<td>Multipurpose nurse</td>
<td>42</td>
</tr>
<tr>
<td>Pharmacy assistant</td>
<td>12</td>
</tr>
<tr>
<td>Midwife</td>
<td>7</td>
</tr>
<tr>
<td>Health statistics</td>
<td>5</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>12</td>
</tr>
<tr>
<td>Radiology technician</td>
<td>10</td>
</tr>
<tr>
<td>Level of study</td>
<td></td>
</tr>
<tr>
<td>S2</td>
<td>66</td>
</tr>
<tr>
<td>S4</td>
<td>67</td>
</tr>
<tr>
<td>S6</td>
<td>67</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
</tr>
</tbody>
</table>

The richness of this research may lie in the diversity of the actors involved. Indeed, the survey carried out made it possible to question different profiles of students. Undergraduate students come from different categories. Indeed, the predominant age category is [21–23], representing 43.5% of all participants. Also, the predominant sex is the female sex, with 63% of the percentage.

The versatile nurse option is the most represented with a percentage of 21%, which aligns with the reality of training at the level of the various ISPITS in Morocco. It should be noted that the representativeness of the various ISPITS parent and annexes has been guaranteed with substantial participation at the level of the ISPITS parent, which includes a large number of students. Similarly, the different levels of education have been integrated in an almost egalitarian way.

This graph shows that (58%) of students consider the place of reflective practice in nursing education to be very important. In addition, (36%) of respondents perceive that the role of RP is essential. However, only (5%) of students consider it of minor importance, and for 1% of them, RP is unimportant.
At the same level, reflective practice is seen as a step, a step in the care process that is in-depth and integrated into the initial training of nurses in order to get the next generation of nurses to take care of people, family, community, and population (Cara, Gauvin-Lepage, Lefebvre, Létourneau, Casimir, Alderson, et al., 2016, cited by (Bernard, 2020)).

Based on this graph, it should be noted that the most crucial reflexive tool for students is the internship ratio with a percentage of (24%). The end of the study project is in second place with a percentage of (20%) followed by the portfolio and the mind map. It should also be noted that only (7%) report that the concept map is an essential reflexive tool.

According to the literature, several methods and tools can be implemented by the teacher to develop RA, including the use of a learning portfolio (Barak, 2005), storytelling (Smith, Joshi, 2009), logbook (Poster, 1987), video feedback (Harford & Ruairc, 2008), collaborative discussion and reflection groups (Fazio, 2009), online communities of practice (Collin, 2009), and even case studies (Bagnoud; Steiner & Ruppen, 2006).

Moreover, it should be noted that almost the majority of participants in the study fully agree that RP impacts academic achievement (18). Notwithstanding, only 18 students disagree, as nine are neutral, might disagree, and just one strongly disagrees. As such, Barriault (2016) argues that to optimize the professional development of school staff and thus promote student success, it is essential that teachers themselves adopt a reflexive and critical stance towards their practice.

Study Of The Impact Of PR On Student Autonomy

It should be noted that participants who assert the existence of an impact of RP on the development of autonomy opt for different justifications with close scores. In short, the most cited justification was that the PR encouraged the student to enter into a reflexive spiral of personal transformation (with a staff of 115). The least mentioned justification is that the RP reinforces the well-being and development of the student's leadership, which 72 students mentioned.

For the 15 neutral people, disagree or disagree at all, they justify their answers by the fact that working the autonomy of students requires rather a change in the institutional organization the fact that "The principle of empowerment requires rethinking pedagogical engineering," which was mentioned by more than half of these participants (8 people). Similarly, eight respondents favored this idea: "Working towards students' autonomy rather requires a change in the institutional organization."

In the same context, the authors (Deum, 2004; Perrenoud, 2004; RuthSahd, 2003; Schön, 1994) clarify that the student reflects spontaneously when the action takes place, intuitively drawing from his consciousness, his knowledge, and critical thinking in order to control or modify his current actions thus offering him a significant autonomy. Indeed, this autonomy in the face of learning is gradually being built. It allows the student to invest in a task, to identify his needs, to go to the end of his activity, to work by choosing what, at the same time, interests him, and brings him the skills and knowledge that he must develop (Clémence, 2018).

Similarly, Loth (2020) considers the reflexive process a dialectic between thought and action, theory and practice (Pedretti cited by Christopher F. Day, 2002, p. 43). It is conceived as a praxis generating professional autonomy. In addition, autonomy was defined by E. Morin as "an ability to act with reflection and full knowledge of the personal and social issues involved in actions" (cited by Francis Danvers, 2003, p. 72).
Table 2

Cross table on the impact of reflective practice on autonomy and its justifications

<table>
<thead>
<tr>
<th>Effect</th>
<th>Reflexive practice has an impact on the development of your autonomy</th>
<th>Fisher-Freeman-Halton Exact Test</th>
<th>V of Cramer</th>
<th>Exact meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly disagree</td>
<td>Not agree</td>
<td>Neutral</td>
<td>Agreed</td>
</tr>
<tr>
<td>The RP encourages the student to enter a reflective spiral of personal transformation</td>
<td>No</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The RP engages in a self-assessment process</td>
<td>No</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The RP leads the student to see new avenues of action and thus improve his creativity</td>
<td>No</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The RP strengthens student well-being and leadership development</td>
<td>No</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The principle of autonomy requires rethinking pedagogical engineering.</td>
<td>No</td>
<td>0</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working towards the autonomy of students requires a change in the institutional organization.</td>
<td>No</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>0</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

It is observed that the degree of significance is very low for the different responses selected, indicating that the differences between observed and expected occurrences are significant. Therefore, we must reject the null hypothesis that there is no impact of RP on the development of autonomy in nursing students.

In the same sense, the Cramer V association measurements indicate a strong relationship between reflective practice and the development of autonomy in nursing students. Indeed, engaging in reflective practice values the acquisition of new professional knowledge in nursing students, rethinking their practices and skills, and thus building their own experience of forging their autonomy. In addition, reflective practice promotes self-knowledge and encourages the questioning of some of its values and a priori. In a word, reflective practice can lead to new learning or change of practice by developing learner autonomy.

**Study of the Impact of RP on school success**

The impact of RP on academic achievement for most respondents (92) is to promote metacognition, which is one of the best predictors of academic success. More than half of the respondents who consider that the PR has no impact on academic success (8 students) justify this answer by announcing that it depends on students’ accompaniment and pedagogical support.

According to Bautier, Charlot, and Rochex (2000), a student's academic success is strongly linked to his or her relationship to knowledge, that is to say to the relationship of meaning and value that it confers on him or her; it is in this context that reflective practice promotes academic success.
Conclusion

The student in nursing advances in a complex system of study in a field full of challenges. It is called upon to engage in training that must promote a better link between theory and practice and be part of a professionalization approach, thus ensuring the development of its autonomy. He must become responsible and reflexive, capable of analyzing every health situation and making the right decisions. As such, the training of this reflexive student must be done to meet

### Table 3

Cross-tabulation of the impact of reflexive practice on academic achievement and its justifications

<table>
<thead>
<tr>
<th>Reflective practice has an impact on academic success</th>
<th>Fisher-Freeman-Halton Exact Test</th>
<th>V of Cramer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>Not agree</td>
<td>Neutral</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>RP promotes student capacity and aims to facilitate discussion through story-telling.</strong></td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>The PR helps to improve its pedagogical approaches, which, in turn, will have a positive impact on the student's learning and success.</strong></td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>RP promotes metacognition which is one of the best preachers of academic success.</strong></td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Academic success depends on the support and pedagogical support offered to students.</strong></td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>Yes</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td><strong>Academic success depends on the commitment, effort, and quality of student learning.</strong></td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

It is observed that the degree of significance is deficient, indicating that the differences between observed and expected occurrences are significant, which means that these differences would occur seven times out of 1000 if the null hypothesis were true. Therefore, we must reject the null hypothesis that there is no impact of PR on academic success. Measures of associations V de Cramer indicate a strong relationship between reflexive practice and academic success in nursing students.

In addition, reflexive practice allows nursing students to adjust their beliefs and knowledge and improve their practice while supporting this evolution with sound reasoning and well-established theoretical foundations. Based on this fact, reflexive practice can improve the student's quality of learning and thus promote academic success.

### Verification of the correlation between the autonomy developed by the PR on academic achievement

**Correlations**

<table>
<thead>
<tr>
<th>Rho of Spearman</th>
<th>Correlation coefficient</th>
<th>Sig. (bilateral)</th>
<th>N</th>
<th>Reflective practice has an impact on academic success</th>
<th>Correlation coefficient</th>
<th>Sig. (bilateral)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>The reflexive practice has an impact on the development of your autonomy</td>
<td>1,000</td>
<td>.</td>
<td>199</td>
<td>.840**</td>
<td>.</td>
<td>199</td>
<td></td>
</tr>
<tr>
<td><strong>Reflective practice has an impact on academic success</strong></td>
<td>.840**</td>
<td>.</td>
<td>199</td>
<td>1,000</td>
<td>.</td>
<td>199</td>
<td></td>
</tr>
</tbody>
</table>

**. The correlation is significant at level 0.01 (bilateral).**

By reading this table, we can see here that $F = 0.840$, $p = 0 < 0.01$. It tells us that there is a statistically significant association between RP's impact on autonomy and RP's impact on academic achievement, which means that any improvement in the student's level of autonomy will be the same in terms of academic achievement and vice versa. Moreover, the correlation coefficient is 84%, which means that this correlation is robust. Hence the $H_{0}$ hypothesis is rejected, and therefore it is to be found that the development of autonomy through reflexive practice has a positive impact on academic success.

### Conclusion

The student in nursing advances in a complex system of study in a field full of challenges. It is called upon to engage in training that must promote a better link between theory and practice and be part of a professionalization approach, thus ensuring the development of its autonomy. He must become responsible and reflexive, capable of analyzing every health situation and making the right decisions. As such, the training of this reflexive student must be done to meet
the health needs of the sick, but also by integrating it into a goal of professionalization by relying on better equipped practical internships and methods and tools capable of helping it develop its reflexive skills.

The acquisition of a reflexive posture is a requirement of nursing education that must allow the student to understand the links between knowledge and its implementation. It is an internal process that contributes to his academic success. Similarly, it happens to everyone to reflect spontaneously on their practice, but if this questioning is neither methodical nor regular, it does not necessarily lead to professional awareness or changes (Clauzard, 2018).

This study has been able to shed light on the importance attached to reflective practice at the level of ISPITS in Morocco, given its effective integration into Teaching/Learning activities through different methods and tools. In this way, the impact of RP on the development of autonomy. Through the Spearman test, a strong association between the impact of PR on autonomy and the impact of PR on academic success was confirmed. In this respect, it should be noted that the development of reflexive practice in nursing students indeed leads to the development of their autonomy and certainly promotes their academic success.

In this perspective, the need to overcome the shortcomings in the development of reflexive practice in nursing studies is an urgent need to improve the quality of training. This work is the first study carried out at the level of ISPITS in Morocco, which has been interested in studying the contributions of reflexive practice in the development of autonomy and academic success. Moreover, this study is timely and original and represents an added value, especially in the absence of national literature on the subject. In this sense, she saw the need to improve teachers' skills in this area and motivate them more to integrate reflexive development interventions in their daily Teaching/Learning practices.

Notwithstanding, the conduct of this study has been limited by:

(a) The complexity of the theme: many authors claim that the constructs of this concept of Reflexive Practice are poorly distinguished in research, leading to confused and generally abusive conclusions (Boekaerts, 1996, Demitzaki, 2003, Desoete, 2001, Desoete et al., 2002, Lafortune & Saint-Pierre, 1996, Noël, 1991, Pallascio, Benny & Patry, 2001, Veenman, 2003a, 2003 b). This confusion is mainly due to the rapid development of these concepts and the resulting fashion effect, and the complexity of observing their mechanisms (Focant, 2004); (b) Social desirability given that respondents, through social compliance, say what they think the researcher wants to harvest (Fortin, 2006),

(c) The reliability of the results is questioned, given the bias of subjectivity that may exist in some student responses, the bias of prevarication type (lies and wilful omission), and also the reliability of the data collection instrument;

(d) The absence of studies relevant to our Moroccan context;

(e) The study should therefore consider all ISPITS in Morocco to have a clear idea of the development of reflexive practice at the national level.

As such, a research perspective can be considered in order to contribute to the development of reflexive practice through:

a. Studies to study the impact of the development of reflexive practice in other training contexts, to generalize the results of these studies at the national and international levels.
b. The study of the factors hindering the integration of reflexive pedagogical interventions in I/As daily practices.
c. Conduct research that appreciates the internal and external factors that influence students' development of reflexive skills. The results of this research should be considered by teachers when planning Teaching/Learning activities.
d. Study the impact of reflexive practice on professional identity development.
e. Study the impact of reflexive practice on nurses' professional development

Declarations

Another publication is not currently reviewing this manuscript, will not be sent to other publishers while it is under review by the JNR, and has not previously been published elsewhere, even in another language.

Acknowledgments

In recognition, at the end of the production of this paper, the authors send heartfelt thanks to the members of the research laboratories within the Abdelmalek Saâdi University and the Ben Maïk University. Also, these thanks go to their colleagues for their support during this study and the future nurse students participating in the study from ISPITS from all over Morocco.

Conflict of interest statement

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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**Figures**

**Figure 1**

Figure 1: Relationship between student achievement and reflective practice (Adapted from Marzano, 2012, p.3) Cited by Barriault (2016)

**Figure 2**

Figure 2. RP's place in nursing education

**Figure 3**

Figure 2. Classification of Reflective Tools in Order of Importance for Students
Figure 3. Level of development of RP

Figure 4. RP Development Context

Figure 5

Figure 6

The reflexive practice has an impact on the development of your autonomy

The reflexive practice has an impact on academic success
Figure 5. Impact of RP on the development of autonomy and educational achievement

Figure 6. Justification of the existence or absence of the impact of RP on the development of autonomy

Figure 7

Figure 8. Justification for whether or not RP has an impact on academic achievement