Description of a professional activity. Modelling of the activity linked with the completion of a pharmacy thesis related to its terminology environment.

I. Description, analysis and activity modelling.

Pascal Bador* and Jacqueline Rey**

* Faculty of Pharmacy, Université Claude Bernard Lyon 1, France
** Library and Information Studies, Université Jean Moulin Lyon 3, France

Pascal Bador is a pharmacist specializing in information sciences applied to biomedicine and pharmacy at the Faculty of Pharmacy of the Université Claude Bernard Lyon 1, where he teaches biomedical information retrieval and writing and new information and communication technologies. His research in the RECODOC Laboratory at the University Lyon 1 is in the area of pharmaceutical information practice (journals, databases, different kinds of publications) and quality of biomedical information. Moreover, he is the webmaster of the Faculty of Pharmacy of Lyon.

Jacqueline Rey is Lecturer in Library and Information Studies at Universite Jean Moulin Lyon 3, where she teaches Information Retrieval, Classification and Cataloguing. Her research in the ERSICO Laboratory at the University of Lyon 3 is in the area of subject access to information. She earned her Ph.D from the University of Lyon 3 in 1994 in Information Science. She has been a university librarian at the University Library of Lyon from 1971 to 1987, at which time she switched to a teaching career. She has been involved with the Section on Classification and Indexing of the IFLA Division of Bibliographic control since 1979 and associated with its publications: "Guidelines for Subject Authority and Reference Entries" (1993), "Subject Indexing: Principles and Practices in the 90's" (1995), and "Principles Underlying Subject Heading Languages" (1999).

Bador, P., Rey, J. (2000). **Description of a professional activity. Modelling of the activity linked with the completion of a pharmacy thesis related to its terminology environment. I. Description, analysis and activity modelling.** *Knowledge Organization, 27(1/2).* 35-43. 12 refs.

ABSTRACT: In this paper, made up of parts I and II, we investigate the complex relationships between knowledge, information and activity in order to study how a system of activity assistance can help the actor to solve his information problems.
Through the example of the completion of a pharmacy thesis, we have tried, in part I, to describe, schematize and model the successive phases that make up the whole of this activity. Our method of observation and analysis combined the observation of two students preparing their pharmacy theses, the reading of five theses and the reading of six books. We thus propose in a table form, a modelling outline that presents the sequential succession of the ten operational phases describing the completion of a pharmacy thesis following a chronological order:
(1) Subject definition, (2) Documentary research, (3) Documents analysis, (4) Conceiving of the experimental strategy, (5) Experimentation, (6) Results interpretation, (7) Writing of the thesis, (8) Administrative procedures, (9) Preparation of the viva, (10) Viva.
The table also presents the succession of the structural, operational, material and human elements: Referents of the activity, Subject of the activity, Location of the activity, Identification of the operations, Handled objects, and Actors.
We have refined the activity analysis by drawing up a structured list, showing the organization of the terms related to the different operational phases. This work is presented in part II.

https://doi.org/10.5771/0943-7444-2000-1-2-35 https://www.inlibra.com/de/page/agb - Open Access - (cc) BY

1. Introduction

In the 1990s, an essential transformation of working conditions took place in numerous branches of industry. The notion of the individual work station became widespread, resulting in a different approach to information. The connection of the work stations to the company network, to wider networks and often to the Internet has modified the nature of the actors' daily professional activity and also of the informational processes that are one of its components. Whereas up to now, the development of computer aided information research systems had been aimed at uniform interfaces, *i.e.* not depending on the personal organization of the user's files, a strong demand for individual and personal interfaces came out of recent changes. As Lesk (1995) remarks, people have far better tools at their disposal to search in databases than in their own notes. We are aware that information seekers first seek in the closest sources (personal notes, colleagues) and less often in the journals. This approach is a big challenge: if everything revolves around the individual, how can we manage the unique and different needs that everybody is going to have? How can we provide a coherent service if the needs differ?

We are aware of the necessity of working in a framework that takes into account the limits of the system-oriented paradigm as well as those of the user-oriented cognitive paradigm. We insist on the pragmatic nature of the information: it cannot be prebuilt data which must be presented or be made accessible. We are convinced that we are concerned with a process of interpretation and of cognitive appropriation that is specific to a given person (or group) and that depends on the activity in which the person (or the group) is engaged.

We want to try to apprehend how an actor works, faced with an information system, this practice being considered not as an autonomous task (or likely to be), but as a process within the scope of a certain context. For us, the information process is only a component of a production or service activity.

We are resolutely interested in the actor and the uses of an information system, the use being defined as the choice and the exploitation of the services and information media depending on the activity. In the very specific case of an actor engaged in a professional activity, we question ourselves on the role paid by the informational processes in this activity and on the way the actors get informed.

In this work, we investigate the complex relationships between knowledge, information and activity to study how a system of activity assistance can help the actor to solve his or her information problems. In the same way an activity comes within the scope of time, it also comes within the scope of an environment and is part of the elaboration of its environment. It resorts to an organized grouping of material and above all symbolic objects. The language used plays a privileged role in this environment: not only does it stem from the activity structure and, in this sense, is a constraint for the beginning actor, but it structures the activity in its turn. The language is the vocabulary of the activity and it refers mainly to the activity. For the activity «completion of a pharmacy thesis», a large-scale work of collection and structuring of the vocabulary has therefore been undertaken.

We have endeavoured, through this example, to describe, schematize and model the successive phases which lead to the completion of a pharmacy thesis (part I). We have then refined the analysis of this activity by drawing up a structured list showing the organization of the terms related to the different operational phases (part II). This terminology inventory, which we call a Structured Terminology Environment (STE), is complementary to the modelling diagram and can, after a while, be directly exploited during the conception of a software for specific application to this professional activity.

2. Methodology

2.1 Choice of the observation ground

The choice of the observation ground has been mainly dictated by the fact that one of the members of the research team, Pascal BADOR, who is himself a doctor in pharmacy and Assistant Professor at the pharmacy faculty of Lyon (Université Claude Bernard Lyon I) knew very well the university pharmacy environment. Indeed, he achieved, a few years ago, his pharmacy thesis in the laboratory of Medicinal Chemistry of the pharmacy faculty of Lyon. We could therefore both benefit from his own experience of research in this field and observe, in this laboratory, two students in the framework of their daily practice of the completion of a thesis.

2.2 Observation method and activity analysis

Since we gained from the beginning of our study by the fact that we already knew very well the professional environment as well as the activities related to the preparation of a pharmacy thesis thanks to our own professional experience, it seemed to us interest-

https://doi.org/10.5771/0943-7444-2000-1-2-35 https://www.inlibra.com/de/page/agb - Open Access - (cc) BY

ing to implement an analysis and observation method combining three essential approaches:

- Field observation of two students preparing a thesis, with the aim of the synthesis of new chemical compounds potentially having a pharmacological activity.
- Thorough reading of five theses representative of the work under study (Audin, 1988; Bador, 1988; Piveteau, 1997; Roure, 1996; Salvi, 1993).
- Reading of six general works (Liutkus and Marion 1993; Beaud, 1994; Huguier and Maisonneuve, 1994; Fèbvre and Giordan, 1990; Davis, 1997; Whimster, 1996) related to the preparation of a thesis and to scientific communication.

This methodology based on three complementary approaches enabled us to combine both a descriptive (field work, theses) and analytical (works, professional experience) vision of the studied activity.

2.2.1 Ground observation

Since we wished to have a real and updated vision of the activity of preparation of a pharmacy thesis, we were allowed to observe two students from the laboratory of Medicinal Chemistry of the pharmacy faculty of Lyon in the framework of their daily practice over eight days. Our target was to observe and note, during this time, all of the actions of the students, in the laboratory as well as in their office and even in other places like the university library. We also tried not to influence, or to influence as little as possible, the course of the different operations that they had to implement and therefore chose never to intervene with them to ask them to explain, justify or name the material used for example. It is true that the observation was easier for us since we already knew the environment quite well, the experimental practices as well as the words defining the material used. It is quite obvious that, in so short period, we could not see or revise in detail all of the operations carried out in the framework of an assignment running over a total period of three years. Nevertheless, we could observe, at least partially, and put back in their context the primary operations carried out as well as the objects handled during the following operational phases:

- Selective documentary research at the university library in view to obtain complementary documents, following to the handling failure.
- Analysis of the documents obtained (student's office)
- Conceiving, or rather adaptation, of the experimental strategy following reading of the articles previously obtained, in the presence of the thesis supervisor (student's office)
- Laboratory experimentation: preparation of the chemical reagents and of the reactional environment, starting and follow-up of the reaction, isolation and identification of the raw product, purification, identification and chemical analysis of the pure product, and notation in the laboratory notebook.
- Analysis of the results of the chemical experimentation: reading of the spectra and chromatograms enabling the absolute identification of the product (student's office)

Added to its interest for the activity modelling linked to the thesis, the ground observation has obviously enabled us to apprehend the terminology environment of the activity studied and to collect a great number of words related to it (See part II).

2.2.2. Reading of doctoral theses

We found it useful to complete our ground observations by the reading of five theses defended at the Laboratory of Medicinal Chemistry. The point of each of these documents was to give us an accurate view of a completed assignment presented according to the customs and standards in use. We must not forget that the document «thesis» was really the subject and mainly the ultimate goal of the student. The purpose of reading the Medicinal Chemistry theses was to reveal the logic as well as the intellectual reasoning of the student. Indeed, the first part of the thesis introduces the pharmacological objectives leading to the objectives of the chemical products synthesis that must present the desired pharmacological activity; the whole thing being of course argued by a very comprehensive bibliography. The prepared chemical products are always put in the framework of the logical sequence of the realized chemical reactions. These latter are analysed through consideration of the theoretical and practical data found in the scientific literature. The end of the first part introduces and analyses the results of the pharmacological tests carried out on the products obtained by the student, these tests being carried out by a Pharmacology laboratory different from the Medicinal Chemistry one. The second part of the thesis is a strictly experimental part, since it describes in detail the experiments that enabled obtaining each chemical product so as to permit the reproduction of all the handlings.

https://doi.org/10.5771/0943-7444-2000-1-2-35 https://www.inlibra.com/de/page/agb - Open Access - (cc) BY

The reading and analysis of these five theses enabled us to go deeper into the following operational phases of our modelling diagram :

- Conception of the experimental strategy
- Laboratory experimentation
- Results interpretation
- Writing

Moreover, these five theses, as they constitute a terminology corpus of more than a thousand pages of text, gave us the possibility of substantially completing the very partial list of the STE words that we had started to draw up during the ground observation.

2.2.3. Reading of books

The two previous stages were complemented by the reading of six books presenting the different phases to implement during the preparation of a thesis in the biomedical disciplines. Our interest focused mainly on the phases of first contact between the student and his or her future supervisor (Definition of the subject) as well as on the strictly documentary phases (Documentary research: database control, document collecting at the university library). We have also studied the phase of circulation of the results (writing of the thesis and of scientific articles) as well as the administrative phases (administrative procedures). Finally, we have finished with the phases related to the viva (preparation of the viva, viva)

Here again, the target of our study was to complete our modelling diagram as well as the structured terminology environment (STE) (part II) of the preparation activity of a pharmacy thesis.

3. Activity modelling

Our ground observation, as well as the reading of theses and books presenting the steps to implement in order to write a thesis, have led us to work out a diagram modelling all of the operational phases toward the completion of a pharmacy thesis. We would like to remind you that the assignment, which is the subject of the thesis, was carried out in the framework of a laboratory of Medicinal Chemistry with the aim of the synthesis of new chemical compounds with a potential pharmacological activity.

The target of the overall modelling diagram (Table 1) that we developed, was to present the sequential succession of the ten operational phases realized, which must be read from the left to the right:

(1) Subject definition (Définition du sujet)
(2) Documentary research (Recherche documentaire)
(3) Documents analysis (Analyse des documents)
(4) Conception of the experimental strategy (Conception de la stratégie expérimentale)
(5) Experimentation (Expérimentation)
(6) Results interpretation (Interprétation des résultats)
(7) Writing of the thesis, writing of scientific articles (Rédaction de la thèse, rédaction d'articles scientifiques)
(8) Administrative procedures (Démarche administrative)
(9) Preparation of the viva (Préparation de la soutenance)
(10) Viva (Soutenance)

These phases obviously correspond to the linear succession of the basic operational phases that finally result in the validation of a research work and an official graduation. For all that, we must mention that at certain operational steps of the work, and according to the results obtained by the student, the latter will have to go back to some of the previous phases following a loop diagram. For example, if the student, after the interpretation of experimental results, (operational phase n°6) is faced with a failure of his or her handling, the student can be led, either in the simpler case, to resume the experimentation in different operating conditions (operational phase n°5) or to resume a documentary research (operational phase n°2) to find more information in the bibliography and to give a new direction to his research, according to his or her own information and to the one obtained from the student's complementary bibliographic research. Figure 1, which must be read clockwise, presents the chronological succession of the operational phases as well as the possible loops for this type of work:

https://doi.org/10.5771/0943-7444-2000-1-2-35 https://www.inlibra.com/de/page/agb - Open Access - (cc) BY

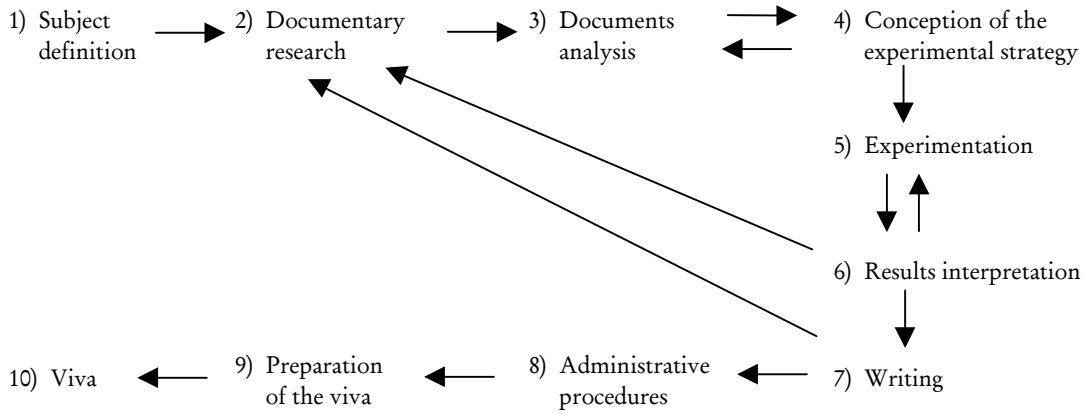

Fig. 1 Succession of the Operational Phases related to the Preparation of a Pharmacy Thesis

These operational phases were put in the general context of the work and can be read from the top to the bottom on Table 1. The analysis of the general framework of the pharmacy thesis has thus revealed a succession of structural, operational, material and human elements as follows:

- Activity referents: it is the real aim of the student, the student's permanent objective which constitutes motivation and desire to succeed and which, in case of a failure, challenges the entire research strategy and even the capacity of the student to achieve his or her plan.
- Activity subject: it highlights the three big phases of a research work, *i.e.* successively the conception based on elements of bibliographic information, and intellectual elements of the researcher, then all the handlings and experimentations in laboratory, and finally the phase of lay out – presentation – circulation of the obtained results so that they can be known and recognized by the scientific community.
- Activity locating: most operations carried out by the student takes place in his or her office and in the laboratory, other places like the office of the thesis supervisor, the university laboratory or the room devoted to the viva of the thesis are also significant places for the student.
- Operational phases: all of the other elements are organized around these 10 phases.
- Operation identification: identification and enumeration of the primary operations presented like the operational phases following a chronological order within these phases.
- Handled objects: enumeration of the objects and tools used in the framework of each of the primary operations.
- Actors: internal and external actors with a direct contact with the main character of the study, namely the student preparing a thesis.

4. Conclusion

During the conceiving of our modelling diagram, we have always considered that the main thread of the analysis and, therefore, of the presented model had to be the chronological succession of the operational phases. In such conditions, the assistance tool for activity related to the thesis can then link the surrounding elements, such as the locating of the activity, the elementary operations, the handled objects and the concerned actors, directly to the surrounding environment. If you really want to refine the processes and take into consideration the details involved in the framework of the actors, tools and activities, you will have to immerse yourself in the professional activity studied and represented by the vocabulary characterizing it. That is what we did, since, following the modelling work that we carried out, we endeavoured to study the terminology environment of the pharmacy thesis that was the subject of the work presented in part II.

References

AUDIN P. Conception et synthèse de composés susceptibles d'interférer avec les systèmes enzymatiques de deux cestodes : *echinococcus multilocularis* et *echinococcus granulosus* : mise au point de nouvelles synthèses d'alcools propargyliques et d'allènes fonctionnalisés. Th. Doctorat, Lyon 1, 1988, 187 p.

BADOR P. Mise au point de nouveaux dérivés en séries spirobuténolide et spiropenténolide. Etude de l'activité cytotoxique de composés acétyléniques. Th. Doctorat, Lyon 1, 1988, 199 p.

https://doi.org/10.5771/0943-7444-2000-1-2-35 https://www.inlibra.com/de/page/agb - Open Access - (cc) BY

BEAUD M. L'art de la thèse. Editions La Découverte, Paris, 1994, 175 p.

DAVIS M. Scientific papers and presentations. Academic Press, San Diego, 1997, 296 p.

FEBVRE M. et GIORDAN A. Maîtriser l'information scientifique et médicale. Delachaux et Niestlé, Lausanne, 1990, 227 p.

HUGUIER M. et MAISONNEUVE H. La rédaction médicale. Doin, Paris, 1994, 204 p.

LESK M. The seven ages of information retrieval. Conference for the 50ng2057th anniversary of « As we may think », 12-14 october 1995, MIT, Cambridge.

LIUTKUS M.et MARION C. Comment réaliser sa thèse dans les disciplines de santé (Médecine, Pharmacie, Odontologie). Sauramps Médical, Montpellier, 1993, 241 p.

PIVETEAU N. Etude de la réaction de condensation du 3-méthyl glutaconate de diméthyle avec des aldéhydes chiraux pour l'obtention de delta-lactones ou de précurseurs de statines : synthèse d'inhibiteurs potentiels de protéases. Th. Doctorat, Lyon 1, 1997, 201 p.

ROURE P. Synthèse de dipeptides isostères éthyléniques : mise au point de précurseurs C-terminaux, dérivés chiraux du bêta-hydroxy propanal. Th. Doctorat, Lyon 1, 1996, 196 p.

SALVI J.P. Mise au point de peptides modifiés pour moduler la réponse immunitaire. Synthèse de dipeptides isostères en vue de leur incorporation dans le fragment peptidique hel (52-61). Th. Doctorat, Lyon 1, 1993, 185 p.

WHIMSTER W. Biomedical research. How to plan, publish and present it. Springer, London, 1996, 246 p.

https://doi.org/10.5771/0943-7444-2000-1-2-35 https://www.inlibra.com/de/page/agb - Open Access - (cc) BY

PRODUITS PHARMACOLOGIQUEMENT ACTIFS

CONCEPTION

Bureau du directeur de thèse		Bibliothèque du laboratoire, Bibliothèque universitaire		Bureau du thésard	
1. Définition du sujet		2. Recherche documentaire		3. Analyse des documents	4. Conception de la stratégie expérimentale
Présentation du concept et du thème de recherche du laboratoire	Etat de la situation et des connaissances actuelles concernant le thème de recherche du laboratoire	Recherche de base première approche du sujet de recherche à partir de la collecte des données fondamentales, théoriques et générales, complémentaires à celles fournies par le directeur de thèse	Recherche courante définition des mots clés mise en équation interrogation des bases de données spécialisées collecte des documents faisant état des travaux à la pointe de la recherche	Classement des documents préparation de dossiers thématiques élimination des documents non pertinents création d'un fichier bibliographique informatisé saisie des fiches	Lecture analytique mise en évidence des documents d'intérêt majeur pour la réalisation de la phase expérimentale
	Nouvelles voies à explorer formulation des hypothèses de travail nouveaux produits à synthétiser définition des objectifs de recherche plan de travail général et théorique				
Données théoriques et fondamentales concernant le thème général de recherche ouvrages de référence, articles originaux, thèses	Ouvrages de référence articles originaux thèses soutenues dans le laboratoire	Documentation tertiaire catalogues des bibliothèques ouvrages de références encyclopédies traités documentation primaire articles de synthèse thèses	Documentation secondaire thesaurus bases de données prêt entre bibliothèques photocopieur documentation primaire articles originaux brevets rapports de recherche	Documentation primaire dossiers thématiques ordinateur fichier bibliographique	Documentation primaire articles brevets thèses rapports de recherche
	Hypothèses schémas et plan de travail théorique objectifs à atteindre				
Etudiant en thèse, directeur de thèse		Etudiant en thèse, directeur de thèse, bibliothécaire		Etudiant en thèse, directeur de thèse	

Adaptation de la stratégie expérimentale en tenant compte de l'objectif recherché et des données de la littérature élaboration du plan de travail expérimental en concertation avec le directeur de thèse

rédaction des modes opératoires détaillés des manipulations.

Ensuite, obligation permanente d'adapter la stratégie expérimentale en fonction des résultats obtenus lors de l'expérimentation et d'une éventuelle recherche documentaire complémentaire.

Adaptation des objectifs et optimisation du plan de travail en fonction des résultats obtenus.

Documentation primaire cahier de laboratoire

Table 1 Modelling of the Completion of a Pharmacy Thesis (1)

https://doi.org/10.5771/0943-7444-2000-1-2-35 https://www.inlibra.com/de/page/agb - Open Access - (cc) BY

PRODUITS PHARMACOLOGIQUEMENT ACTIFS

MANIPULATION

Laboratoire

5. Expérimentation

Préparation des réactifs et du milieu réactionnel selon le mode opératoire préparé	Mise en route et suivi de la réaction notification des observations sur le cahier de laboratoire	Isolement et identification du produit brut notification de la procédure utilisée sur le cahier de laboratoire	Purification du produit notification de la procédure utilisée sur le cahier de laboratoire	Identification et analyse chimique du produit pur notification des caractéristiques chimiques du produit sur le cahier de laboratoire	Transmission des produits chimiques synthétisés au laboratoire de pharmacologie en vue de l'évaluation de leur activité pharmacologique réception des résultats
Réactifs chimiques verrerie balance de précision cahier de laboratoire	Milieu réactionnel verrerie instruments de prélèvement et de suivi de la réaction cahier de laboratoire	Verrerie solvants évaporateur CCM cahier de laboratoire	Verrerie solvants matériel de purification évaporateur cahier de laboratoire	CCM HPLC RMN spectrométrie de masse spectroscopie IR microanalyse solvants cahier de laboratoire	Milieu de culture animaux de laboratoire verrerie solvants matériel pharmacologique fiches d'évaluation de l'activité pharmacologique des produits synthétisés cahier de laboratoire
Etudiant en thèse, directeur de thèse, technicien de laboratoire, service central d'analyse, laboratoire de pharmacologie					

Bureau du thésard

6. Interprétation des résultats

Analyse des résultats de l'expérimentation chimique comparaison des spectres et chromatogrammes obtenus par rapport aux spectres et chromatogrammes de référence. Les résultats obtenus conditionnent et orientent de façon permanente la stratégie expérimentale future qui nécessite une recherche documentaire tout au long de la phase expérimentale afin de tirer partie des expérimentations antérieures	Analyse des résultats de l'expérimentation pharmacologique comparaison de l'activité des produits synthétisés avec celle de produits de référence décrits dans la littérature
Chromatogrammes spectres IR, RMN, de masse, microanalyse cahier de laboratoire documentation primaire	Fiches d'évaluation de l'activité pharmacologique des produits graphiques schémas tableaux photographies cahier de laboratoire documentation primaire thesaurus documentation secondaire bases de données bibliographiques prêt entre bibliothèques photocopieur
Etudiant en thèse, directeur de thèse	

Table 1 Modelling of the Completion of a Pharmacy Thesis (2)

https://doi.org/10.5771/0943-7444-2000-1-2-35 https://www.inlibra.com/de/page/agb - Open Access - (cc) BY

PRODUITS PHARMACOLOGIQUEMENT ACTIFS								Référents de l'activité
MISE EN FORME – PRESENTATION								Objet de l'activité
Bureau du thésard					Secrétariat	Bureau du thésard	Salle des thèses	Localisation de l'activité
7. Rédaction de la thèse – Rédaction d'articles scientifiques					8. Démarche administrative	9. Préparation de la soutenance	10. Soutenance de la thèse	**Phase opérationnelle**
Partie bibliographique présentation de l'état de l'art et des objectifs chimiques et pharmacologiques du travail de recherche	Travail personnel présentation de la stratégie expérimentale de la synthèse chimique de produits potentiellement actifs	Résultats pharmacologiques description et évaluation de l'activité pharmacologique des produits synthétisés	Partie expérimentale description détaillée et chronologique des modes opératoires chimiques et pharmacologiques	Saisie de la thèse	Dépot du dossier choix des membres du jury et de la date de soutenance envoi d'exemplaires provisoires de la thèse aux rapporteurs	Préparation du matériel de soutenance, impression des exemplaires définitifs de la thèse entrainement à la présentation orale réception des rapports des rapporteurs réalisation des modifications et compléments demandés par les rapporteurs	Présentation orale réponse aux questions des membres du jury délibération du jury annonce du résultat de soutenance	Identification des opérations Opérations primaires
validation par le directeur de thèse	validation par le directeur de thèse	validation par le directeur de thèse	validation par le directeur de thèse	validation par le directeur de thèse				
Documentation primaire	Documentation primaire cahier de laboratoire	Documentation primaire cahier de laboratoire	Cahier de laboratoire	Ordinateur manuscrit	Dossier de dépot de soutenance de thèse exemplaires provisoires de la thèse	Rapports des rapporteurs ordinateur transparents diapositives exemplaires de thèse	Transparents diapositives exemplaires de thèse	Objets manipulés
Etudiant en thèse, directeur de thèse, secrétaire, rédacteur en chef, comité de lecture					Etudiant en thèse directeur de thèse secrétaire rapporteur jury	Etudiant en thèse directeur de thèse secrétaire rapporteur jury	Etudiant en thèse directeur de thèse rapporteur jury	Acteurs

Table 1 Modelling of the Completion of a Pharmacy Thesis (3)

https://doi.org/10.5771/0943-7444-2000-1-2-35 https://www.inlibra.com/de/page/agb - Open Access - (cc) BY