WHAT ENGLISH DO YOU NEED? COURSE DESIGN FOR EPP[1]

Abstract: It is well known that, first and foremost, ESP teaching requires determining learners' needs and, thereby, engaging in the development of materials and in the adoption of methods that favour needs-driven response on the learners' part. Following this practice, the present paper discusses how a course of English for Pharmaceutical Purposes (EPP) was designed for its implementation at the University of Calabria, Italy. The five stages of the design, namely, analysis of learning needs, syllabus design, materials design, implementation of appropriate pedagogy and learners' perception of catered needs are described in detail. In the first stage, a survey was conducted with the tertiary students enrolled in the course. Results on learners' needs were applied consistently to the following stages of the design, as shown in the sample EPP activities presented. Overall, findings on learners' perception of catered needs shed light on the importance of enacting the role of needs analysts as ESP practitioners.

Keywords: ESP, Needs Analysis, Course and Materials Design, Task-based Language Teaching.

Introduction

English for Specific Purposes (ESP) has become one of the most prominent areas of ELT over the last three decades. Its growing force is mostly due to the role the English language plays today within the technological, business and academic worlds. The term ESP nowadays includes a long list of subdivisions, such as EAP (English for Academic Purposes), EBP (English for Business Purposes), EMP (English for Medical Purposes), or "as many types […] as there are specific learner needs and target communities that learners wish to thrive in (Belcher, 2009: 2).

Although the teaching of ESP is expanding at secondary level, it is in tertiary settings that it plays a major role. ESP is, indeed, designed for adult learners at an intermediate or advanced level, as it supposes some basic knowledge of the language systems and a motivation to learn the L2 for professional reasons (cf. Dudley Evans & St. John, 1998: 4). However, Italian tertiary students are faced with the difficult task of coping with ESP, due to the fact that the National Curriculum for Foreign Languages at secondary level is based on the study of literature for most school typologies. For this reason, the present study proposes a course design method with the aim of catering for a specific group of ESP learners.

ESP can neither be considered as a particular kind of language nor as a particular type of teaching material. It is, in fact, "an *approach* (emphasis added) to language teaching in which all decisions as to content and method are based on the learner's reason for learning" (Hutchinson & Waters, 1987: 19). Its focus is, therefore, on the learner and on his/her perceived needs for learning, which should be embedded into the design of "appropriate courses for various groups of learners" (*ibidem*: 20). In this view, the study first attempts to determine learners' needs through a pre-course survey and, thereby, develop materials and methods that favour needs-driven response on the learners' part.

It is therefore assumed that ESP should be needs-driven, purpose-related and pragmatic in scope and with an "emphasis on practical outcomes" (Dudley-Evans & St. John, 1998: 1).

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1. The case study

Whereas a General English course would normally focus on a set syllabus and a predefined textbook, in ESP, course and materials design represent a substantial part of the teacher's responsibilities. These responsibilities include taking a number of different steps as illustrated in the present study. Focus is placed on the specific case of an English for Pharmaceutical Purposes (EPP) course carried out at the University of Calabria, Italy, consisting of 48 teaching hours articulated over a semester.

1.2. Participants

Fifty-four first-year students enrolled in the five-year degree in Pharmacy attended the course. Participants' language proficiency level was assessed through an entry test at the beginning of the academic year and ranged between a CEF B1 (lower)-B1 (upper) (Council of Europe, 2001).

1.3. Research tools

Two research questionnaires were designed to survey respectively learners' needs before the course and learners' perceptions of their catered needs immediately after the course. The first semi-structured questionnaire was administered anonymously to all participants four weeks prior to the beginning of the course. The questionnaire was divided into 3 parts: 1. biodata; 2. ESP learning needs; 3. learners' attitude.

Part 1 (items 1-5) aimed at collecting data on: gender, age, qualification, years of exposure to the target language, previous knowledge of the specialised language. Part 2 (items 6-9) was structured to gather data on participants' perceived learning needs related to course content (item 6), topic areas (item 7), scientific language skills (item 8), resources (item 9). In this part, participants were required to rate items on a value scale of priority: 4 points for the first choice, 3 points for the second, 2 for the third choice and 1 point for the fourth choice. Part 3 (items 10-13) was targeted to collecting data on participants' learning attitude, such as learning styles (items 10,11) and preferred learning modes (items 12,13). Surveying learners' attitude would help identify the kinds of tailored strategies and pedagogic approach to be implemented.

The second semi-structured questionnaire was administered anonymously to all participants immediately after the course. The questionnaire was divided into two parts: 1. ESP learning needs; 2. learners' attitude. Part 1 (items 1-4) aimed at collecting data on participants' perception of how the course catered for their language and content needs. Part 2 (items 5-8) aimed at collecting data on participants' perception of how the course met their attitudes. Participants were invited to express their perceptions for each item using a Likert Scale (strongly agree-strongly disagree).

1.4. Procedure

The study of the EPP course in question was based on the following five stages:
1. *Analysis of learning needs*: in this pre-course stage, participants were administered a semi-structured questionnaire in order to collect data as the basis for course design;
2. *Syllabus design:* following survey results from Stage 1, the syllabus was designed to promote process-oriented learning, focusing on strategies and tailoring those linguistic and academic skills students expected to develop through the course;
3. *Evaluation and design of learning materials:* three criteria, namely, pertinence to field of study, learners' language proficiency level and instructional expectations, were used to evaluate and select learning materials;

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4. *Evaluation and implementation of appropriate pedagogy:* this was also based on the assessment of learning needs and planned to cater for students' preferred learning mode. A purpose-related orientation was identified for pedagogical practice in order to consider those communicative needs that students were likely to face in target situations in their professional contexts.
5. *Learners' perception of catered needs*: in this post-course stage, participants were administered a semi-structured questionnaire in order to collect data on how they perceived their needs were catered for by the course.

2. Stage 1: Analysing needs as a starting point for *learning-centred* instruction

In ESP teaching, Belcher (2006:13) claims that learning needs "are unique to specific learners in specific contexts", and they should, therefore, be addressed with "tailored-to-fit instruction". In this sense, course design is "fundamentally a matter of asking questions in order to provide a reasoned basis for the subsequent processes of syllabus design, materials writing, classroom teaching and evaluation" (Hutchinson & Waters, 1987: 20). A careful analysis of needs enables teachers to provide the specific language and skills learners need in order to succeed in their courses and careers (cf. Johns, 1991; Johns & Dudley-Evans, 1991; Benesch, 1996). According to Basturkmen & Elder (2004: 674), ESP courses are, indeed, perceived by students as being "highly motivating" because they consider instruction as "relating closely to their actual needs". Motivation, thereby, translates into more effective learning.

"Tell me what you need English for and I will tell you the English that you need" (Hutchinson & Waters, 1987: 8): this statement not only implies the central role of the learner, but also the relevant share the ESP teacher has in determining what learners' specific needs are, shaping them in linguistic and pedagogic terms (cf. Mackay, 1978). In this sense, a definition of ESP as a *learning-centred* approach, rather than a learner-centred one (cf. Hutchinson & Waters, 1984) appears to be more appropriate. Through an effective understanding of learners' needs, the teacher designs and implements learning-centred processes, which give an ESP course its pedagogic focus[1].

2.1. Findings on needs analysis

Biodata findings showed that participants' (28 males, 26 females) age ranged between 19-21 (*M*=20) and that most held a scientific secondary school diploma. Participants had further been exposed to the English language for more than five years (49 participants) and from 3-5 years (5 participants). Although data on L2 exposure was encouraging, findings showed, that only a small percentage of participants (7) had previous ESP experience (cf. Introduction).

Findings on ESP needs (items 6-9) were elaborated and top rated items (value 4) were analysed. Table 1 shows findings on ESP needs with top preferences per number of participants in bold.

ESP NEEDS (total n° participants= 54)			
6. From this course I'd like to	**Specialized lexicon**	Grammar rules	General lexicon	Idioms

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[1] In regard to this issue, it is worth noting Skehan's (1998: 262) remark against negotiated syllabi which, in his view, can be counterproductive if the addressees do not know how to be effective learners.

mostly learn				
	45	2	6	1
7. I would like topics to deal with the following aspects of my subject area	Anatomy	Pathology	**Pharmacology**	Pharmacological chemistry
	20	2	**30**	2
8. I would like to acquire the following scientific skills	Understand lectures	Give an oral presentation	**Understand scientific articles**	Write a scientific article
	6	19	**25**	4
9. I would prefer to learn content taken from	Scientific journals	Textbooks	The Web	**Other authentic materials**
	14	0	2	**38**

Table 1. Findings on ESP needs: first choice preferences per n° of participants.

As in Table 1, most participants (45) showed a strong preference for learning the specialised lexicon (*content*), whereas preferences in the *topic area* showed a strong orientation towards the fields of Pharmacology (30) and Anatomy (20). The *scientific skills* that students claimed to prefer to develop were understanding a scientific article (25) and giving an oral presentation (19). Finally, students showed a strong preference for learning from authentic material (38) and scientific journals (14) amongst other *learning resources*.

Furthermore, findings on learners' attitude (items 10-13) indicated that participants preferred using a mix of learning styles (36), with only a slight emphasis on a kinaesthetic learning style (10). Interestingly, a number of students (28) was willing to attempt to learn on their own when challenged, showing a degree of self-regulated learning. As for learning dynamics, students showed a preference for group work (25), which appeared consistent with their learning mode preference of participating in project work (38). Overall, a very low number of students revealed that they preferred learning in a more traditional manner through visuals (8), in a teacher-centred approach (3), in frontal lessons (0), and by consulting books. This implied that most students were willing to take responsibility for their own learning, constructing and co-constructing their EPP knowledge and skills. Findings on learners' attitude are indicated in Table 2, where top preferences per number of participants are given in bold.

LEARNERS' ATTITUDE (total n° participants= 54)				
10. I learn and remember better when I	See things	Hear things	Do things myself	**Use a mix of these**
	8	0	10	**36**
11. If I encounter a challenging issue while studying I	Consult my colleagues	Do research on the internet	Directly ask my teacher for help	**Try on my own**
	11	12	3	**28**
12. I prefer to learn	Individually	In pairs	**In a group**	In frontal lessons

13. My favourite learning mode is	13	16	**25**	0
	Taking notes in class	**Participating in project work**	Searching the Internet	Consulting books
	4	**38**	12	0

Table 2. Findings on learners' attitude: participants' learning preferences

3. Stage 2: Syllabus design

Data findings from Stage 1 were referred to during the decision-making process of designing the syllabus. As a result, the syllabus was designed as *skill-based*, following the belief that "underlying any language behaviour are certain skills and strategies, which the learner uses in order to produce or comprehend discourse" (Hutchinson & Waters, 1987: 69). Therefore, the learning process was designed to rely on the acquisition of specific abilities that play a key role in L2 usage. Skills are "things that people must be able to do to be competent in a language, relatively independently of the situation or setting in which the language use can occur" (Reilly, 1988). The choice of a skill-based syllabus was found to be important as it is not only concerned with the surface *performance* data, but first and foremost with the *competence* underlying the performance (cf. Hutchinson & Waters, 1987: 69). For instance, the "general objective" (i.e. *performance level*): to be able to understand a scientific article entails the "specific objectives" (i.e. *competence level*): a. to be able to extract the gist of a scientific article by skimming through it; b. to be able to extract detailed information for scientific purposes (e.g. pharmacological doses). Skill-based syllabi group linguistic competencies into "generalized types of behavior, such as listening to spoken language for the main idea, writing well-formed paragraphs, giving effective oral presentations, and so on" (Reilly, *op. cit.*). The primary purpose of skill-based instruction is to acquire the specific language skills, which encompass underlying language competence. Table 3 below shows the organisation of the syllabus for the EPP course under study, which consistently mirrors findings from Stage 1 (cf. Tables 1 & 2). The EPP syllabus was found to be consistent with studies conducted in the field of English for Academic Purposes (cf. Plastina, 2003).

Reading skills	Writing skills	Listening skills	Speaking skills
-Skimming and scanning scientific articles for the gist; -Reading scientific articles for comprehension and details (e.g. searching for synonyms); -Recognizing roots, prefixes, suffixes of medical terms.	-Writing a CV and a cover letter; -Writing a scientific abstract; -Writing a report of a scientific conference.	-Listening for note-taking from lectures and conferences.	-Giving a scientific oral presentation; -Intervening during conferences (asking questions, expressing opinions).

Table 3. The Organisation of the EPP syllabus

As from Table 3, a skill-based syllabus has a pragmatic basis. This is rooted in the distinction between goal-oriented and process-oriented learning made by Widdowson (1981) and backed up by Holmes (1988). Process-oriented learning, which encompasses skill-based courses, has the advantage of focusing on the strategies and processes of making students aware of their own abilities and potential (cf. Holmes, 1988). A process-oriented

approach, indeed, encourages students to become "better processor[s] of information" (Hutchinson & Waters, 1987: 70). Furthermore, the skills and strategies acquired during this process will contribute to develop lifelong skills.

4. Stage 3: Evaluation and design of learning materials

The stage of evaluation and design of materials represents a fundamental part of ESP. Indeed, all research to-date agrees that the use of textbooks plays "an ancillary, if any role […] in the ESAP syllabus" (Toms, 2004: 3). As aforementioned, learners' needs represent the starting point of any ESP course, a point that would be not accounted for by the adoption of a predetermined textbook. This choice would, in fact, severely constrain "the scope to adapt material to learner differences" (Skehan, 1998: 206).

Findings from Stage 1 revealed that participants identified *authentic materials* as their preferred learning source. This is consistent with research showing learners' preference for what "authentically represent[s] the communities in which [they] seek membership" (Belcher, 2006: 149). For this purpose, learning materials for the present EPP course were developed from written or spoken texts "taken from the target situation" (Hutchinson & Waters, 1984: 111). However, the challenges for the material designer lay in the selection of texts "with the potential for affective and cognitive engagement" (Tomlinson, 2008: 9). In other words, materials ought to be designed to cover content and language development, as well as learners' motivation to learn through their preferred styles and modes.

4.1. Evaluation and selection of learning resources

"Evaluation is a matter of judging the fitness of something for our particular purpose" (Hutchinson & Waters, 1987: 96). For the EPP purpose, a series of resources were identified as suitable in regard to both selected content, which showed a combination of topics as areas of relevance[1] with an emphasis on the pharmacological area of study, and students' language competence level. Selected resources included:

o *The New Scientist*[2]: a renowned British scientific magazine also available online which offers a "Health" section including the following issues: cancer, epidemics and pandemics, stem cells, etc. The New Scientist uses a series of journals (Lancet Infectious Disease, Neurology, mBio, etc.) as sources for their articles, which are often adaptations targeted to a broader audience. This source was especially used for developing reading materials for the introductory part of the course, so as to encourage students to familiarize with the scientific terminology as well as with the rhetoric of scientific articles;

o *Science Daily*[3]: an American scientific journal offering a wide range of topics related to healthcare, ranging from "Allergy", to "Pharmacology" and "Women's Health". A relevant source of updated research in the medical field, Science Daily selects news releases submitted by universities and research institutions and is also targeted to a general audience, although its articles are slightly more complex in regard to both the

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[1] This is partly due to the fact that a very high percentage of students had tried to access the Faculty of Medicine before enrolling at the Faculty of Pharmacy.
[2] Available at http://www.newscientist.com/
[3] Available at http://www.sciencedaily.com/

terminology used and their length. Articles from this source were, therefore, selected for reading activities for an intermediate stage of the course;

o *Pharmacological Reviews*[1]: an academic journal offering review articles on subjects of current interest in pharmacology and related topics. Because of the high complexity of its articles, these were selected for a more advanced stage of the course. These also served for writing activities purposes, such as *abstract writing* (See section 5.1. for further discussion);

o *Murray Jensen M. D.'s Medical Terminology Website*[2]*:* Jensen, an associate professor at the University of Minnesota, Department of Science Education, designed a very useful website for learning medical terminology. The online activities are graded to practice roots, prefixes and suffixes of medical terms. Activities are carried out and submitted online and immediate feedback is provided (See Appendix 2);

o *Veomed*[3]*:* an interesting website which provides videos of international medical conferences. These were mainly used for listening activities, in particular note-taking, but also served as models for oral tasks (See section 5.1. for further discussion);

o *Dictionary of Medicine* by Peter Hodgson Collin and the *Concise Dictionary of Modern Medicine* by Segen. These two medical dictionaries represented a very helpful resource for the design of the "Scientific Vocabulary in Context" and "Language in Scientific Context" sections (See Appendix 3).

4.2. Materials design

Selected materials were then elaborated as "accessible inputs" that could "relate to the students' experience and background, and include non linguistic aspects and background information considering the students' capacity for analysis and synthesis both for the topic and the language" (Laborda, 2011: 103-104). Materials represent an important starting point for the organization of the teaching-learning process. They, in fact, provide "a path through the complex mass of the language to be learnt" (Hutchinson & Waters, 1987: 107).

For the EPP course, materials were designed so as to match the analysed needs "with available solutions" (*ibid*.: 105) and in accordance with the following criteria:

o The *subject-matter* areas selected by the students, which identified the Pharmacology and Anatomy areas as relevant (cf. Table 1, item 7);

o The *specialized lexicon* identified by students as one of the main priorities (cf. Table 1, item 6);

o The students' initial *language proficiency level* which was assessed at an intermediate level (CEF B1 lower-B1 upper);

o The integration of various linguistic *macro-skills* (reading, writing, listening and speaking) as related to the selected text-types, such as scientific articles, videos of scientific conferences, etc;

o The consequent *micro-skills* to be developed (e.g. deducing meaning from unfamiliar words, reading/listening for the gist, etc.);

o The *sequencing* of content and language graded from easier to more demanding.

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[1] Available at http://pharmrev.aspetjournals.org/
[2] Available at http://msjensen.cehd.umn.edu/1135/med_term_activites/
[3] Available at http://veomed.com/

5. Stage 4: Evaluation and implementation of appropriate pedagogy

Once the materials were designed, the choice of *how* these were to be implemented was part of the subsequent stage. An integrated methodology aimed to promote the various language skills, as well as students' cognitive and emotional involvement in the learning process, was singled out as the most suitable approach for a tertiary level EPP course.

A range of skills and activities were implemented in order to raise students' interest and motivation and cater for the different learning styles (cf. Table 2). This was achieved by means of a variety of: *a.* topics; *b.* skills; *c.* media (text, CD/video, the Internet); *d.* classroom organisation (whole class, pair, individual, group) (cf. Hutchinson & Waters, 1987:140).

Following the belief that language learning is a developmental process where comprehension precedes learning (cf. Strevens, 1985), the implementation of the course followed a series of stages aimed at enabling students to become increasingly proficient in the EPP. This process was organised as follows:

a. *Providing scaffolding on specialised vocabulary*: this was achieved by means of a series of activities aimed to provide the basic linguistic resources in view of future increasingly complex tasks. Such activities included:

     o *information transfer*, such as labelling anatomy diagrams out of the information provided (See Appendix 1);

     o *medical word-formation*, including roots, prefixes and suffixes of Greek and Latin origin, using the aforementioned University of Minnesota website for practice (See Appendix 2);

     o *medical and pharmaceutical language in context* (See Appendix 3), aimed to the acquisition of a repertoire of scientific terms in context of use, and designed drawing on the medical dictionaries (cf. section 4.1.).

b. *Developing reading/listening micro-skills:* this was achieved by exploiting the reading and listening resources selected. Both resources were graded according to their degree of complexity from easier to more difficult. However, at this stage the following micro-skills were promoted:

     o reading for the gist in order to match given titles to paragraphs;

     o reading for details, in order to match synonyms with terms in a given written text (See Appendix 4);

     o listening for the gist to identify keywords related to the main theme;

     o listening for details for note-taking.

c. *Promoting writing and speaking skills:* this final phase was thought of as a sum of the previous two, leading to a point where students' acquired skills and competencies would build up into a more productive stage (See section 5.1. for further discussion). Due to the time constraints of the module and its narrow articulation within a four-month span, production concerning the writing skills focused only on *abstract writing*. However, a wider space was allotted to oral production, since this was identified by students as a more relevant scientific skill to be acquired (cf. Table 1, item 8).

5.1. The role of Task-Based Language Teaching

Task-Based Language Teaching (TBLT) is an approach to language teaching which is centred on "a problem solving or a task" (Prabhu, 1984: 276) through "the creation of conditions in which learners engage in an effort to cope with communication" (Prabhu,

1987: 1). TBLT stimulates natural process-oriented learning by doing things, enhancing learners' language performance through the goal of problem-solving.

Tasks are considered "meaning-based activities closely related to learners' actual communicative needs and with some real-world relationship, in which learners have to achieve a genuine outcome" (Kappler, 2003: 35). Nowadays, we are witnessing a wide application of TBLT at all educational levels, although it is especially thriving at tertiary level, where it has the advantage of linking language acquisition with content learning. For this reason, a decision to devote part of the institutional course to TBLT was made, further supported by the analysis of learners' attitude, which showed a preference for group and project work (cf. Table 2, items 12,13), two important features of TBLT. In particular, this process involved the productive stages of *abstract writing* and *giving an oral presentation*.

At this stage, the teacher's role was that of a *facilitator*, providing scaffolding through practical demonstrations of task-types and discussing ideas and resources for research. In particular, for what concerned the *oral presentation* task, advice was provided on the following aspects: a. scientific websites for research; b. content organization, including power point graphics; c. how to deliver an oral presentation, including checking for correct pronunciation of difficult medical terms; d. how to quote references and organise bibliography.

As for the task of *abstract writing*, a series of articles were selected from *Pharmacological Reviews* (See section 4.1.). These were analysed to show the functional purpose of an abstract within the context of its scientific article. Students were then assigned a series of articles with deleted abstracts, and were required to write related abstracts. Awareness of abstract writing styles was raised through comparisons made by students between their abstracts and the original ones.

In this phase, responsibility for the learning process was handed over to the students. In a co-operative learning environment, they had to work towards the attainment of a shared goal and thereby develop the underlying organisational and social skills. Their duties included not only managing group dynamics and information, but also the skill to monitor group progress and understanding. This had the advantage of promoting self-regulated learning, which represents an important feature of language learning at tertiary level.

6. Stage 5: Findings on participants' perception of catered needs

All participants (54) responded to the semi-structured questionnaire administered at the end of the course. Findings indicated that the course met participants' needs in terms of learning the specialised lexicon (SA*=31; A**=16, in covering preferred topics (SA=29; A=18), developing professional language skills (SA=29; A=16), and provided suitable learning materials (SA=32; A=17).

In addition, participants perceived the experience as stimulating their learning styles (SA=29; A=16), their motivation (SA=32; A=15), besides offering a variety of learning modes (SA=32; A=15). However, despite data on learners' needs highlighted participants' attitude towards self-regulated learning (cf. Table 2, item 11), findings on perceived learner autonomy did not meet equally positive feedback, in that only 30 participants (SA=21; A=9) showed an awareness of being more autonomous in their learning. This is probably the result of teacher-centred methodologies largely in use at all educational levels in Italy and which the short course under study did not succeed to fully address.
*SA=strongly agreed; **A=agreed.

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Conclusion

The present paper has discussed some essential aspects of ESP teaching/learning, and has highlighted primarily that ESP courses should be based on students' rationale for learning. In particular, it has considered the case of designing and implementing a course of English for Pharmaceutical Purposes for a group of Italian tertiary students. Starting from an analysis of learning needs, the experience showed how findings were valuable both for the following stages of the course design and for its successful implementation. This is confirmed by the belief that ESP courses are successful to the extent in which they have a "high surrender value" (Edwards, 2000: 292), that is, the ability to convey skills and competencies which are immediately usable by students in their professional contexts.

Furthermore, findings showed how *tailored-to-fit instruction* strongly relies on the role of needs analyst, which must be enacted by the ESP practitioner to attain pedagogical goals successfully. As a result, the ESP practitioner is also summoned to act as a course and syllabus designer and as a materials designer to ensure that ESP tertiary students are equipped with the proper language, academic and professional skills for their current studies and future careers. While this process requires a challenging effort on the teacher's side beforehand, in the actual ESP classroom, post-course findings showed how participants perceived the beneficial impact of the effort made to tailor ESP learning to their needs.

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APPENDIX 1. Example of an *information transfer* activity.

THE URINARY SYSTEM

Read the short text and label the diagram with the parts from the box at the bottom:

The urinary system consists of the kidneys, ureters, urinary bladder, and urethra. The ureters are two muscular tubes which carry the urine away from the kidneys to the urinary bladder, which is a temporary reservoir for the urine. The urinary bladder is situated above the urethra. The urethra is also a tubular structure that carries the urine away from the urinary bladder for elimination out of the body.

1. _____
2. _____
3. _____
4. _____

Bladder	Ureter	Urethra	Kidney

APPENDIX 2. The University of Minnesota's website for medical terminology and word-formation.

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APPENDIX 3. Example of a *medical and pharmaceutical vocabulary in context* **activity.**

Vocabulary in use : *Choose the appropriate word from the box below. There are 5 extra words you don't need.*

1. Pharmacists are _____ professionals that deal primarily with dispensing medications.

1. _____

2. A medical _____ is a written order by a qualified physician to a pharmacist for a treatment to be provided to their patient.

2. _____

3. A substance formed by a chemical reaction of two or more elements is a _____.

3. _____

4. A _____ is a secondary, unwanted effect of a drug.

4. _____

5. Analgesic drugs are commonly known as _____.

5. _____

6. Antibiotics are drugs that kill bacteria or _____ their growth.

6. _____

7. Cortisone is a steroid hormone used to treat a variety of _____, such as inflammation and severe allergies.

7. _____

8. Yearly _____ of seasonal flu usually take place during the fall through early spring.

8. _____

9. A drug is used _____ when prescribed for purposes which are different from those suggested and approved.

9. _____

10. An extremely popular drug that generates annual sales of at least $1 billion for the company that creates it is a _____.

10. _____

SIDE-EFFECT	BIOLOGICAL	REMISSION
AVOID	PREVENT	PAINKILLERS
INHIBIT	HEALTHCARE	OFF-LABEL
BLOCKBUSTER DRUG	COMPOUND	AILMENTS
PRESCRIPTION	BENEFITS	OUTBREAKS

APPENDIX 4. Example of an introductory *reading* **activity.**
Painkillers need clearer warnings to prevent liver damage

Source: *New Scientist*. Journal reference: *American Journal of Preventive Medicine*, DOI: 10.1016/j.amepre.2011.02.016
04 May 2011 by Ferris Jabr

1. Nearly 20,000 Americans a year are being hospitalised for liver damage after accidentally overdosing on acetaminophen, also known as paracetamol. Jennifer King, at Northwestern University in Chicago, says consumers are so comfortable and familiar with shop-bought painkillers that they are failing to recognise their potential toxicity.
2. Only 19 of 45 people interviewed in depth by King's team said that they actually read the ingredients on drug labels and only 14 (31 per cent) knew that the active ingredient in Tylenol is acetaminophen.
3. People can overdose on acetaminophen by surpassing the maximum daily dose of Tylenol, for instance, or by "double dipping" – taking more than one medication that contains the drug.
4. To help prevent accidental overdose, King's team recommends a makeover for packs of shop-bought medicines, including a universal icon for acetaminophen, a red stop sign indicating maximum dose and a clear warning about potential liver damage.
5. "You may have used [the same painkiller] for decades and don't feel you need to look at the label anymore," says co-author Michael Wolf, also at Northwestern University. "We need a fairly significant change to make people realise this is an issue."

Exercise 1. Paragraph Titles
Read the article and match the following titles with the paragraphs. Write the correct paragraph number in the right-hand column.

Ways people can overdose on paracetamol.   _____
The dangers of purchasing painkillers over-the-counter.   _____
Ways accidental overdosing can be avoided.   _____
People's awareness about drug content should increase.   _____
People are generally unaware of the ingredients contained in a drug.   _____

Exercise 2. Synonyms
Read the article and find the synonyms for the following words. Write one-word answers.

1. almost   1. _____
2. non-prescription   2. _____
3. analgesics   3. _____
4. medicine   4. _____
5. avoid   5. _____
6. renovation   6. _____
7. caution   7. _____
8. problem   8. _____

Exercise 3. Summary
Read and complete the following summary of the article. Write one-word answers in the right-hand column.

According to a (1) _____ conducted by the Northwestern University in Chicago, almost 20,000 American (2)_____ liver damage because of accidental overdosing on paracetamol. This is one of the (3) _____ of buying over-the-counter drugs. According to the research, less than half per cent of the people interviewed admitted to read the drug (4) _____. People can overdose on paracetamol, either by surpassing the maximum daily dose, (5)___ by double-dipping. Drug packaging should go through a complete makeover in order to (6) _____ accidental overdose: this should include clearer (7) _____ about the potential damage the drug in question could cause. Researchers at Northwestern University believe people should become more (8) ____ of the potential dangers of drugs.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

APPENDIX 5. An excerpt of a pharmaceutical conference held at the New York University, Langone Medical Centre on December 6th 2011, available at *veomed.com*