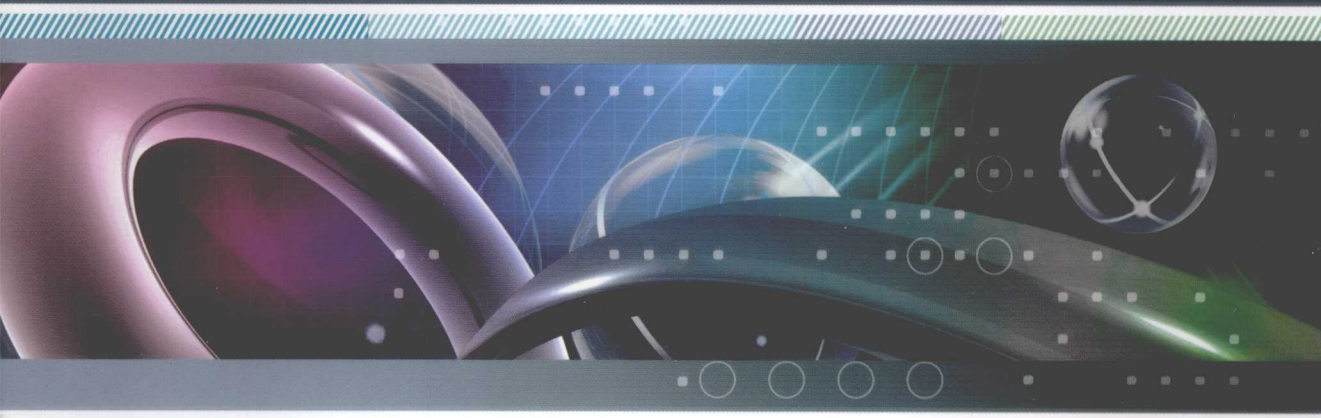
高等学校专业英语教材

物流专业英语教程

（第2版）

张庆英 主编　岳卫宏 李 郁 副主编



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内 容 简 介

本书以物流工程与供应链管理为主线，以物流术语的定义为起点，介绍了运输、仓储、配送、包装、装卸搬运、流通加工和信息管理等物流系统各功能环节的基本内容，分析了绿色物流、逆向物流、第三方物流、第四方物流、冷链物流等现代物流形式，探讨了电子商务、B2B、ERP 系统、MRP 系统、RFID、物联网（IoT）等系统和方法。最后部分通过两个实际案例将理论探讨与案例分析结合起来，深化并活化理论知识。

全书共 25 课，每课有 A、B 两篇，其中 A 篇为精读课文，B 篇为阅读课文，均来自精心挑选的英文原版资料。文中对生词、短语及部分句子均加以注释，并在每课的最后列出若干讨论主题。在基本课文之后附有物流专业术语与技术词汇的“英—汉”、“汉—英”对照表，以及物流常用缩略词与组合词表，同时向授课教师提供全套课件和 A 篇的参考译文，读者可登录华信教育资源网 www.hxedu.com.cn 免费注册下载。

本书可作为物流及相关专业本科生的专业英语教材，也可作为物流方面的研究者及工程技术人员学习英语和专业知识的参考书。

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前　言

“物流专业英语”以物流工程与供应链管理为主线，涵盖了物流的基本概念和基本环节、供应链管理，以及相关的技术等内容。本书精心挑选了英文原版资料，内容涉及物流系统的各个方面。

本书以物流的术语定义为起点，讨论了物流系统的运输、仓储、配送、包装、装卸搬运、流通加工和信息管理等功能要素的基本内容，分析了第三方物流、第四方物流、国际物流、绿色物流、逆向物流、冷链物流等现代物流形式，探讨了电子商务、B2B、ERP、MRP、RFID以及物联网等系统和方法。

本书还介绍了供应链管理的基本概念，探讨了供应链管理技术及其发展趋势。选择了两个案例——利盟国际的供应链评价和惠普的供应链管理风险分析，将理论探讨与实际案例分析结合起来，深化并活化理论知识。

全书共25课，每课有A、B两篇，其中A篇为精读课文，B篇为阅读课文。文中对部分生词、短语及句子加以注释，并在每课的最后列出了若干讨论主题。

在基本课文之后的附录中给出了物流专业术语与技术词汇的“英－汉”、“汉－英”对照表，以及物流常用缩略词与组合词表，同时向授课教师提供全套课件和A篇课文的参考译文，读者可登录华信教育资源网 www.hxedu.com.cn 免费注册下载。

本书由武汉理工大学张庆英博士（教授）任主编，河南工业大学岳卫宏博士和武汉理工大学李郁副教授任副主编。张庆英教授负责编写Unit1、Unit2、Unit4、Unit5、Unit6、Unit18、Unit19和Unit20，岳卫宏博士负责编写Unit9、Unit10、Unit11、Unit13、Unit14、Unit22、Unit23和Appendixes，李郁副教授负责编写Unit8、Unit12和Unit3(B)，张莹老师负责编写Unit3(A)、Unit7、Unit16和Unit17，王正国老师负责编写Unit15，辜勇老师负责编写Unit21，刘海英老师负责编写Unit24和Unit25。钱晨、陶玉旻、孙小芳、张梦雅等同学为本书的资料整理提供了大力帮助。在此一并表示感谢。

在本书的编写过程中，参考和借鉴了很多专业书籍和网站的资料，编者已尽可能全面地将其列于参考文献中，但恐有疏漏，敬请谅解，并向各位作者致敬、致谢！

本书可作为物流及相关专业本科生的专业英语教材，也可作为物流方面的研究者及工程技术人员学习英语和专业知识的参考书。

编　者

目　录

Unit 1

Passage A Introduction to Logistics

1. Definition of Logistics

Logistics, the logistics center and its flow characteristics of materials, called logistics. Logistics originally formed in the United States called "Physical Distribution" (PD) "distribution in kind" or "goods delivery". Japan imported after the 1960s as "the link between the production and consumption of goods custodian, transportation, handling, packaging, processing functions and control such functions as a backup to the information role. It played a role as a bridge in sales material[1].

Logistics is the hot topic in China and the whole world. Although it is anything but a newborn baby, lots of people still have limited awareness of, and knowledge about logistics[2] —the subject matter of this textbook. People tend to refer logistics as the flow of goods, yes, it is partly right, but logistics is much more than that. So what logistics really is?

When you look up the term "logistics", you might surprise to find out there are various definitions of different editions, each has slightly different meaning.

To avoid potential misunderstanding about the meaning of logistics, this book adopts the current definition provided by the Council of Supply Chain Management Professionals (CSCMP) (known as "Council of logistics Management")—one of the world's most prominent organizations for logistics professionals[3].

According to CSCMP, logistics is the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from point of origin to point of consumption for the purpose of meeting customer requirements. It is quite a long definition, to understand it better, let's analyze it in closer details.

1.1 It is a process of "plan Implement and control"

First, logistics is a process of "plan, implement, and control". Of particular importance is the word "and", which suggest that logistics should be involved in all three activities planning, implementing, controlling — not just one or two[4]. Some suggest, however, that logistics is more involved in the implementation than in the planning of certain logistical policies.

1.2 Refer to "efficient and effective flow and storage"

Note that the definition also refers to "efficient and effective flow and storage". Broadly

speaking, effectiveness can be thought of as "how well does a company do what they say they are going to do? " For example, if a company promises that all orders will be shipped within 24 hours of receipt, what percentage of orders are actually shipped within 24 hours of receipt? In contrast, efficiency can be thought of as how well (or poorly) company resources are used to achieve what a company promised it can do.

1.3 Involves "goods, services, and related information"

The definition also indicates that logistics involves the flow and storage of "goods, services, and related information". Indeed, in the contemporary business environment, logistics is as much about the flow and storage of information as it is about the flow and storage of goods. Advances in information technology make it increasingly easy — and less costly — for companies to obtain important information to make logistical decision.

1.4 Purpose of logistics is to meet customer requirements

Finally, the definition indicates that the purpose of logistics is to meet customer requirements. This implies that logistics strategies and plans should be based upon customer wants and needs. Therefore, management must first find out what those wants and needs are, and to meet their requirement.

Logistics starts with the provision of raw materials and semi-finished goods for the manufacturing process, and finishes up with the physical distribution and after sales service of the products.

Economically, this creates a new source of profit characterized by the development of mass distribution and attention to service quality. The two basis objectives in practicing business logistics, cost reduction and time saving have enabled companies to profit not only in performance and quality but also in customer satisfaction.

Operationally, companies realize that by regrouping the different aspects of logistics and instead of viewing them as separate processes, substantial savings can be made within their business' outgoing expenditure.

In a more practical sense, logistics refers to the systematic management of the various activities required to move benefits from their point of production to the customer. Often these benefits are in the form of a tangible product that must be manufactured and moved to the user; sometimes these benefits are intangible and are known as services. They too must be produced and made available to the final consumer. But logistics encompasses much more than just the transport of goods.

The concept of benefits is a multifaceted one that goes beyond the product or service itself to include issues regarding timing, quantity, supporting services, location, and cost. So a basic definition of logistics is the continuous process of meeting customer needs by ensuring the availability of the right benefits for the right customer. In the quantity and condition

desired by that customer, at the time and place the customer wants them, all for a price the buyer is willing to pay. These concepts apply equally well to profit industries and non-profit organizations, as the earlier discussion on military requirements illustrated.

2. Definition of Terms

Material flow is the linking of all processes for the acquiring, processing, matching and distribution of material goods within defined areas.

An important aspect of the definition of the term is its limitation to material goods, therefore excluding the transport of energy or of information. However, material goods are not restricted solely to materials forming part of the production process, i.e. raw materials, semi-finished and finished products, but also other materials such as, for instance, waste, pallets and packaging[5].

Roughly speaking, differentiation is made in material flow between handling, conveying and transporting.

- **Handling** — Handling refers to all motion sequences used for the starting or ending of production processes and also of transporting and storage. This includes, for instance, the insertion of a work piece in a work piece retainer or the stacking of work pieces at a storage place. Handling therefore includes all material flow processes taking place at a workstation.
- **Conveying** — Conveying is the movement in horizontal or vertical direction via limited distances and is therefore generally restricted to in-plant processes. Examples are: The supply of screws by means of a vibratory bowl feeder and the transporting of vehicle bodies by means of overhead conveyors.
- **Continuous conveyor** — These examples immediately highlight an important difference: in the first example, a continuous conveyor is used. Continuous conveyors operate continuously (at least over an extended time period). The second example involves an intermittent-flow conveyor. Each cabin of the overhead conveyor has its own timetable, to which it operates, with alternating travel operation, empty running and stops.
- **Steady-flow** — Conveyors are generally more economical to operate than intermittent-flow conveyors. Being of identical dead weight, these have greater conveyor capacity whilst requiring less drive power[6]. This is partly due to the continuous operating mode, thereby eliminating the continuous starting and decelerating of the drive, handling equipment and material to be conveyed.

On the other hand, intermittent-flow conveyors are frequently more flexible in application. As shown by the example, these are predominantly used for heavy individual loads.

Conveyors often have yet a secondary function resulting from the dwell time of the material being conveyed. For example, in the case of a refrigerated conveyor, parts cool down to a point where they reach the temperature required for further processing. Conveyors are also used as buffers in order to harmonize the working cycle of several processing stations.

3. Analysis of material flow

The terms handling, conveying and transporting are contrasted in different stages of material flow. The first stage of material flow includes transport between the factory and its suppliers or customers. This stage of material flow involves location planning, which does not form part of MPS training and is therefore not discussed here. The second stage of material flow includes movement within the factory site between the various sectors of the operation, e. g. factory building. Factory planning again takes into account material flow and evolves an appropriate building plan. Again, this stage of material flow will not be dealt with at this point. The third stage of material flow includes the movement between the individual departments of an operational area and, within the departments, the movements between the various workstations, machine groups and storage areas, etc. This stage can be dealt with as part of MPS. The fourth stage of material flow involves movement on the workstation itself. This stage deals primarily with handling equipment for the automation of material flow on the workstation. This represents a major aspect of MPS.

In order to determine the optimum layout ofequipment and the respective handling equipment involved, plus the possibly required storage and buffer stores, it is necessary to establish the material flow. The first step towards this involves the structure of the material flow.

4. Constitution of a logistics system

In a typical logistics system, there are mainly seven basic function factors, including transportation, warehousing, delivering, packing, loading (unloading) and handling, distribution processing, as well as information managing, which are actually interacting or interdependent group of items forming a unified whole. They work together as a mechanism or interconnecting network.

New Words and Expressions

1. logistics [lə'dʒistiks] *n.* 物流学，后勤学
2. council ['kaunsil] *n.* 理事会，委员会，参议会，讨论会议，顾问班子，立法班子
3. prominent ['prɔminənt] *adj.* 卓越的，显著的，突出的
4. implement ['implimənt] *vt.* 贯彻，实现；*v.* 执行

5. consumption [kən'sʌmpʃən] *n.* 消费，消费量
6. involve [in'vɔlv] *vt.* 包括，笼罩，潜心于，使陷于
7. receipt [ri'si:t] *n.* 收条，收据，收到；*v.* 收到
8. indicate ['indikeit] *vt.* 指出，显示，象征
9. vibratory ['vaibrətəri] *adj.* 振动的，振动性的
10. intermittent [ˌəintə(:)'mitənt] *adj.* 间歇的，断断续续的
11. steady ['stedi] *adj.* 稳固的，稳定的，坚定的，扎实的，坚定不移的
12. optimum ['ɔptiməm] *n.* 最适宜 *adj.* 最适宜的
13. semi-finished *adj.* 半成品的
14. dead weight 死沉沉的重物

Notes

1. Japan imported after the 1960s as "the link between the production and consumption of goods custodian, transportation, handling, packaging, processing functions and control such functions as a backup to the information role. It played a role as a bridge in sales material."
在20世纪60年代后，日本引入了这样的概念，即物流是实现产品和消费品之间的管理、运输、物流搬运、包装等联系的过程，并且作为一种信息角色的支持来控制这类功能。它扮演在销售物料中的桥梁角色。
2. Logistics is the hot topic in China and the whole world. Although it is anything but a newborn baby, lots of people still have limited awareness of, and knowledge about logistics.
物流是一个中国乃至全世界的热门话题。虽然它已经不是一个新生事物，但是不少人对物流的认识仍然有限。
be aware of something：意识到
Example: John has been aware of having done something wrong. 约翰已意识到自己做错了事情。
3. To avoid potential misunderstanding about the meaning of logistics, this book adopts the current definition provided by the Council of Supply Chain Management Professionals (CSCMP) — one of the world's most prominent organizations for logistics professionals.
为了避免可能发生的对物流含义的误解，本书采用美国供应链管理专业协会(前身为美国物流管理协会)目前的定义，该协会是全世界物流专业领域中最著名的组织。
to avoid something (doing something)避免，避开
Example: She tried to avoid answering my questions. 她试图避而不答我的问题。
4. First, logistics is a process of "plan, implement, and control." Of particular importance is the word "and", which suggests that logistics should be involved in all three activities, planning, implementing, controlling — not just one or two.
首先，物流是"计划、执行与控制"。特别重要的是这个"与"字，它指出物流应该包括所有这三方面——计划、执行与控制——而不仅仅是其中一个或两个方面。

5. However, material goods are not restricted solely to materials forming part of the production process, i.e. raw materials, semi-finished and finished products, but also other materials such as, for instance, waste, pallets and packaging.
不过,物品不仅仅局限于形成生产过程的物质,即原材料、半成品、成品,还包括如废料、托盘及包裹之类的其他物质。
6. Being of identical dead weight, these have greater conveyor capacity whilst requiring less drive power.
在相同的重载之下,这些输送机(恒定速度的输送机)拥有更大的输送能力,而所需驱动力更小。

Topics for Discussion

1. Is logistics a new concept? If it is not, do you know anything about the origin and history of logistics? Please share the information you have with your group member.
2. How much do you know about the literal meaning of logistics?
3. Why do the advances in information technology make it increasingly easy — and less costly — for companies to obtain important information to make logistical decision?
4. What is the difference made in material flow between handling, conveying and transporting according to the text?
5. Why are "material flow" divided into four stages? Can you make an analysis of material flow in yourself way?

Unit 1

Passage B The Role of Material Flow Systems

The objective of the industrial firm may be stated as the effective coordination of men, materials, machines and money to provide a product or service when and where needed at a price attractive to the customer, which will provide a profit to the firm and serve society[1]. In a product (as opposed to service) enterprise the satisfaction of this objective is largely accomplished by conversion of the form or shape of materials and the relocation or movement of these materials[2]. Men and machines are allocated to accomplish this conversion and movement. The requirements for monies result from decisions related to accomplishing the allocation of these other resources as well as the procurement and distribution of materials. Profits are directly related to the control of costs and costs, in the sense above, are to a large degree dependent upon the control of materials conversion and location. To control materials conversion requires control of material quantity at each stage of the conversion. If quantity and location are to be controlled most effectively, timely and accurate information must be available upon which to base the control decisions[3]. It is the interrelationship between material quantities at the various stages of conversion, the location and movement of these materials, and the information necessary for decisions related to conversion and location that is referred to as the material flow system.

The effectiveness of the production enterprise in the above context is largely, if not totally, related to the organization's ability to control quantity and location of materials. In turn, the potential effectiveness of this control is to a high degree dependent upon the quality of the decision information available to the decision maker at the time a quantity or location decision must be made[4]. A little reflection on the basic or primary objectives of various functional units of the organization will verify the above statement. Purchasing is concerned with procurement of materials and vender relations, inventory control with time and quantity schedules and accountability for materials, stores and warehousing for physical control, production control with quantity and location during processing, sales with customer satisfaction with material quality and time of material delivery, and physical distribution with satisfaction of the customer at minimum cost to the firm. Each function is restricted in satisfying its objectives by the ability to have accurate information available to secure effective movement of the materials. These requirements for information and movement will not be totally under any single function's control but rather interlaced across facets of many

functions. It may be concluded therefore, that to improve the effectiveness of the functional units, singularly and jointly, it is necessary to establish an integration of,

(1) materials: quantity control at all stages of conversion and distribution,

(2) materials: movement to provide quantity allocations at desired locations, and

(3) information: necessary to arrive at proper decisions to maximize the effectiveness of quantity control and materials movement.

It is therefore necessary for the material flow system to provide means to improve the effectiveness of this integration.

The question might be raised, "So what's new?" The newness is in the integration of quantity control, material movement, and information processing as a single system, rather than three somewhat autonomous subsystems. Organizationally it is usually possible to identify a material handling function (movement) and a data processing function (information), which, although they may service the entire firm, nevertheless they have their individual identity and set of objectives. Quantity control is not this well identified functionally. True there is usually an inventory control or materials control group but too often their concern is restricted to stock levels planning and stock maintenance for process input materials. Procurement of quantities to satisfy these stock levels is a purchasing responsibility. In-process inventories are then controlled and assigned by production control or manufacturing. Warehouse material inventories and in transit shipments are controlled by groups reporting to purchasing or sales. The result is that the firm does not have a single materials quantity control subsystem but a set of subsystems, which may or may not be adequately coordinated. If coordinated, the coordination is likely to be accomplished by means of a computer information system which may have been designed by a data processing systems group concerned with data processing efficiency and not information in a form, and at a time of maximum value to the using function.

The recognition of the need to develop a computer based total information system implies recognition of the need for more effective material flow control. Difficulty in reaching full effectiveness arises due to:

(1) The imposition of the data system upon the existing organization and control system without changing the basic operating procedures, or

(2) The imposition of a generalized data system which conceptually appears adequate but does not give adequate consideration to the firm's operating environment and existing practices with their related effect on input data[5].

The first type installation fails because the existing organization's functional relationships, procedures, and communications are not compatible to necessary information system functional relationships for effective or efficient data processing. The second type of installation fails because of the failure to recognize that each firm has its own peculiar

operational constraints and a good general concept must be altered to fit these peculiarities. The results to be attained are only as good as the information system and the information system is only as good as its input. The failure to recognize and adjust for either operation or data processing system constraints negates an effective system.

If the information system is only as good as its input it is important that the input be both accurate and timely. Furthermore, if the necessary information for decision and action is primarily related to material, or allocation of other resources to act on materials, the input must reflect completed action on material and its affect on desired results for the future. Decision is then concerned with getting from the present (completed) to the future in the most effective manner.

Disregarding for a moment the problem of accomplishing input, consider the required content of input. There are only four bits of knowledge or data required to fully define material flow information:

(1) Event — or what occurred to the individual material control unit.

(2) Quantity — of material in the control unit for which the event occurred.

(3) Time — at which the event occurred.

(4) Location — at which the event occurred.

Following procurement the events related to material can generally be classified as operation on, movement, or storage. Although quantity must be known in-process control is usually by a batch which should be identifiable from all other batches of similar material. This batch identity is often accomplished by lot number, production order number, or similar identity.

Having these four bits of information, evaluation of performance against prior plans and projection of data for future planning decisions can be accomplished. The failure to either provide the necessary bits of information, or errors or inadequacies in interpretation of results, increases requirements for men and facility resources in order to reduce the effect of these errors or inadequacies. Operational crisis then arise more frequently and management by exception becomes difficult since exceptions or deviations from plan is the rule. For example if location data is in error extra, manpower must be provided to search. In addition extra in-process inventory is usually generated which demands additional facilities as well as manpower.

The more effectively one can plan the flow of material, identify and measure the actual flow relative to plan, and reduce the frequency with which exceptions occur, the more effective is the entire business process. One cannot expect to eliminate problems of, or deviation from, plan but they can be reduced.

New Words and Expressions

1. coordination [kəuˌɔːdiˈneiʃən] *n.* 同等，调和
2. procurement [prəˈkjuəmənt] *n.* 获得，得到
3. deviation [ˌdiːviˈeiʃən] *n.* 背离
4. vender [ˈvendə] *n.* 卖主，售卖者
5. interlace [ˌintə(ː)ˈleis] *v.* 使交织，使交错；交错，交织
6. autonomous [ɔːˈtɔnəməs] *adj.* 自治的
7. subsystem [ˈsʌbˌsistim] *n.* 次要系统，子系统
8. coordinate [kəuˈɔːdinit] *n.* 同等者；*adj.* 同等的，并列的；*v.* 调整，整理
9. imposition [ˌimpəˈziʃən] *n.* 强迫接受
10. generalized [ˈdʒenərəlaizd] *adj.* 无显著特点的，不能适应特殊环境的
11. constraint [kənˈstreint] *n.* 约束，强制，局促
12. manpower [ˈmænpauə] *n.* 人力
13. interrelationship *n.* 相互关系［联系，影响］，干扰

Notes

1. The objective of the industrial firm may be stated as the effective coordination of men, materials, machines and money to provide a product or service when and where needed at a price attractive to the customer, which will provide a profit to the firm and serve society.
   工业公司的目标可以解释为人力、材料、设备和资金的有效整合，以便在合适的时间、地点（适时适地）为用户提供具有价格优势的产品或服务，使公司赢利，为社会造福。
2. In a product (as opposed to service) enterprise the satisfaction of this objective is largely accomplished by conversion of the form or shape of materials and the relocation or movement of these materials.
   相对于服务业而言，生产企业目标的满足，很大程度上取决于材料形式或形状的转变及其位置的移动与改变。
3. If quantity and location are to be controlled most effectively, timely and accurate information must be available upon which to base the control decisions.
   要使数量和场所得到有效、及时、准确的控制，就需要有及时而准确的信息，这种信息是做出控制决策的基础。
4. In turn, the potential effectiveness of this control is to a high degree dependent upon the quality of the decision information available to the decision maker at the time a quantity or location decision must be made.
   反之，在必须对数量和场所加以确定时，决策者所依据的关键信息可靠与否，就在很大程度上决定了这种控制的潜在效力。