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Topic 1: Competency-based Learning Management

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Kuala Lumpur
28 November 2017

Agenda

- PCT WG: Better coordination of examiner training
- ASPAC Bureau: individualized competency based learning management
- Tools for training management facilitating better coordination between providers/donors and recipients/beneficiaries
  - Competency framework
  - Learning management system
- General aspects of competency based learning management
- Challenges and options for smaller offices: No one-fits-all

Examiner training at PCT WG and MIA

- PCT/MIA/21/4 Training of examiners (2014)
- PCT/MIA/22/5 Training of examiners (2015)

- PCT/WG/8/7 Training of Examiners (2015)
- PCT/WG/9/18 Training of Examiners (including 1st survey) (2016)
- PCT/WG/10/7 Survey on Patent Examiner Training (2017)
- PCT/WG/10/9 Coordination of Patent Examiner Training (2017)
- PCT/WG/11 (2018)

WIPO survey on patent examiner training

- PCT Circular 1464 (2016)
  - Replies received from 45 Offices:
    - 34 **beneficiary offices** (18 were donors as well)
    - 5 **donor only offices**
  - Evaluation discussed at 9th session of PCT WG: PCT/WG/9/18

- PCT Circular 1497 (2017)
  - Replies received from: 40 Offices
    - 36 beneficiary offices (13 were donors as well)
    - 3 donor only offices
  - Evaluation discussed at 10th session of PCT WG: PCT/WG/10/7

- PCT Circular x (2018)

WIPO survey on patent examiner training

- Questionnaire distinguished between four different **categories of training activities**
  - Classroom-type training events conducted face to face:
    - majority of donated training activities: 81 activities for 1100 participants organized by 19 donors; mostly basic level. No guest trainees in internal seminars.
  - On-the-job training: examining pending cases supervised by mentor:
    - beneficiaries consider it as most efficient way of acquiring best practices; 10 donors organized OJT (1 to 2 weeks) for 9 beneficiary offices (including exchange of experienced examiners)
  - E-learning, including online seminars and distance learning courses (WIPO, EPO):
    - surprisingly limited and no systematic use (lack of examination specific courses?); examiners from 24 offices participated; not mandatory anywhere.
  - Medium to long-term comprehensive training programs:
    - RPET: 3 intakes, 38 examiners; JPO: 10 week programs for 17 examiners

WIPO's role

- PCT-WG
  - expressed support for more active role of WIPO in coordinating examiner training
  - invited WIPO to
    - Enhance transparency of training support donated to beneficiaries
    - **Compile e-learning materials**
    - Develop examination specific distance learning courses
    - **Develop inventory of competencies**
    - **Explore development of learning management system (LMS)**

- ASPAC Bureau to implement a **Individualized and Competency Based Learning Management,** i.e. more efficient management of training activities organized by the Bureau for individual examiners of the Offices serviced by the Bureau
  - In particular training opportunities donated by 'donors' to 'beneficiaries'
  - Applicable as well for managing in-house training of any Office
  - Applicable as well by 'donors'

Summary: Individualized Learning Management

ASPAC Bureau

- **Challenge**: Variety of donor organized 'courses' (JPO, KIPO, EPO, USPTO, IPA, ..)
- **Objective** of examiner training management:
  - Assure that each examiner trainee attains all desired competencies by assigning and monitoring/tracking participation in relevant training opportunities
  - Efficient use of training opportunities provided by donors by avoiding/minimizing
    - redundant/duplicate participation
    - inefficient participation (lack of prior learning, experience)
- **Competency model (CM) based** rather than **curriculum based**
- **N.B. Learning management (LM) is NOT either curriculum or competency based**
  - **LM includes usually always a curriculum component**
  - **LM may include explicit competency related elements (learning outcomes)**

Terminologies

- Curriculum: schedule of courses/training activities
- Syllabus: description of subjects covered by course
- Competency (technical/functional): what the trainee is expected to attain through participation in training activity
- Competency Framework/Model/Dictionary: set/inventory of competencies
- Learning Management System: software application for managing various aspects of learning

Sample: Curriculum based training

Friday, March 11, 2016

9.30 – 11.00	**Session 9**	**Patent Search Strategy**
		(a) Basics of Patent Search
		Speaker: To be determined
11.15 – 12.30		**(b) Practices in the Specific Technical Field (Two Groups: Chemistry and, Biotechnology and Mechanics)**
		Speaker: To be determined
12.30 – 14.00	Lunch Break	
14.00 – 15.30	**Session 10**	**Access to and Use of Foreign Examination Results**
		(a) Strategic Use of Patent Work-Sharing Tools
		Speaker: To be determined
15.30 – 17.00		**(b) Access to Patent Prosecution History**
		Speaker: To be determined

Curriculum USPTO new recruits

Patent Training Academy
New Examiner Training Program
Entry Level Program Curriculum

MONTH 1 - WEEK 1

- Welcome - Office of Patent Training Director/Deputy Director
- Overview of the 2-Phase Program
- Introduction to Patent Systems
- Patent Examiner & Flow of an Application
- Examination Toolkit
- Individual Development Plan (IDP) System
- Claim Interpretation Pre-Lecture
- Types of Applications
- Intro to the UL and UL Utilities
- Training Application Part 1 - Understanding the Training Application
- Environmental & Safety Issues
- USPTO Tour
- Reasonable Accommodations
- Health Benefits Forms
- Examiner's Expectations
- Trainers' Expectations

WEEK 2

- Training Application Part 2 - Basic Requirements to File and Formalities
- 35 U.S.C. 101 - Introduction

WEEK 3

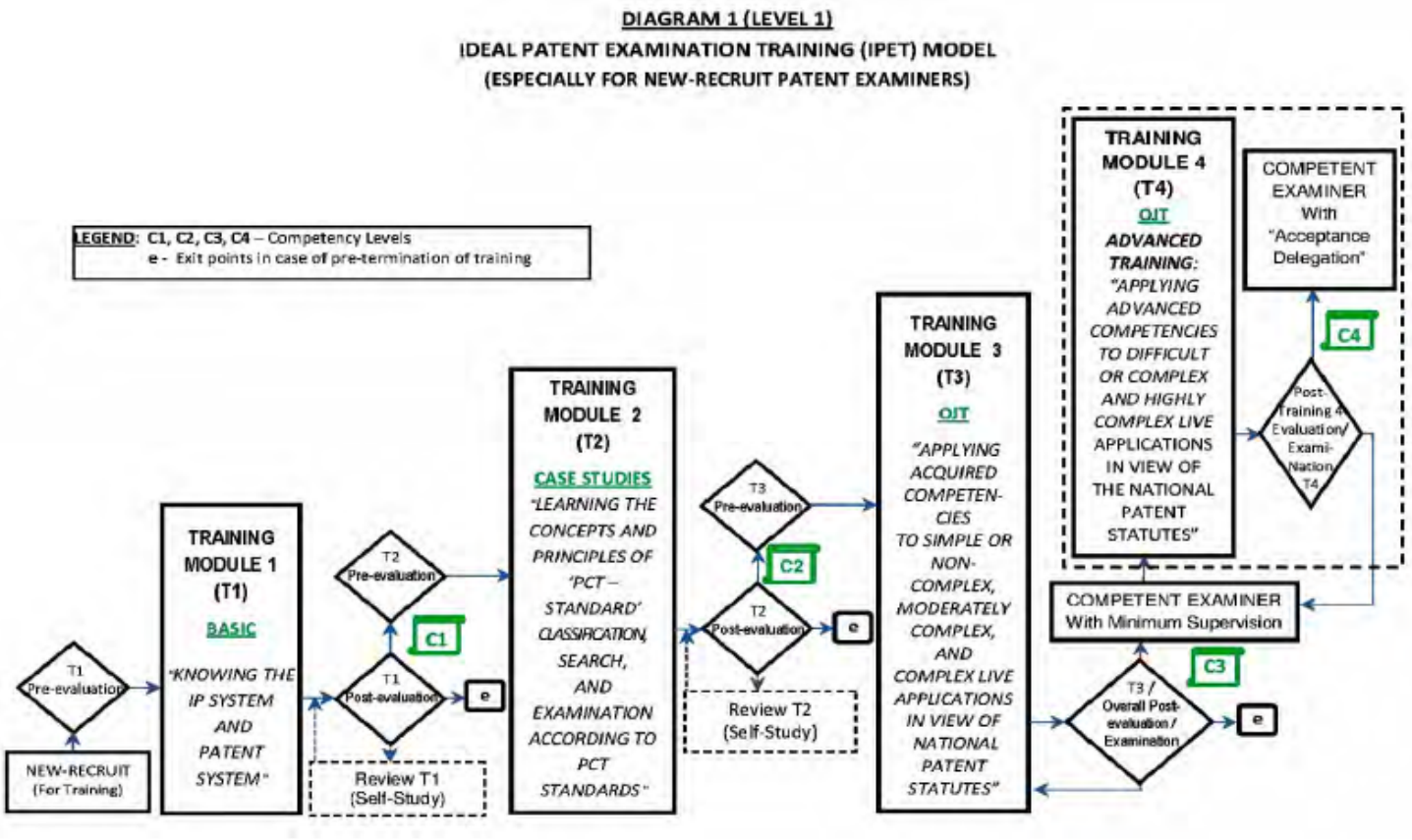
- 35 U.S.C. 102 - Introduction Pre-AIA
- Work Schedules, Leave & Overtime
- 35 U.S.C. 112 - Paragraph (a)
- Training Application Part 4 - §101 and §112
- STIC (I): STIC Services Overview
- 35 U.S.C. 103 - Part 1 of 3
- Training Application Part 5 - Case Reporting I
- Examiner Performance Appraisal Plan (PAP)
- Double Patenting
- Training Application Part 6 - Searching and Identifying Prior Art
- Training Application Part 7 - Mapping Art to Claims
- Training Application Part 8 - Case Reporting II
- 35 U.S.C. 102 - Introduction - AIA Parts 1 and 2

WEEK 4

- OACS - Part 1
- Training Application Part 9 - Office Action
- Diversity Training
- NPL on ProQuest Dialog (TC 2100/2400/2600/2800/3600/3700)
- Harassment Prevention
- Search (II): Search Strategy
- Introduction to Production System
- Restriction Practice - Part 2
- Collaboration Tools
- Claim Interpretation - Part 1 and Intermediate
- STN - Basics (TC 1600/1700/2800 Semiconductors)
- 35 U.S.C. 103 - Part 2 of 3

RPET, IPET phased (level) curriculum

An Overview of IPET Training



basic medium advanced

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IPET competency based curriculum

Competencies

Curriculum

Unit of competency			Training modules	
Unit 1:	Understand intellectual property systems and the role of patent examination	➪	Module 1:	Knowing the IP System and the Patent System
Unit 2: Unit 3: Unit 4: Unit 5: Unit 6: Unit 7: Unit 8:	Construe patent specifications Evaluate patent specifications Assess novelty Assess inventive step Classify patent applications Conduct searches Produce examination reports	➪	Module 2:	Introduction to concepts and principles of patent classification, search and examination
Unit 9:	Undertake searches and patent examination under supervision within a national context	➪	Module 3:	Applying acquired competencies to simple or non-complex live applications in view of the national patent statutes
Unit 10:	Independently undertake complex searches and examinations within a national context	➪	Module 4:	Applying advanced competencies to difficult or complex live applications in view of the national patent statutes

"formal"

"on the job"

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Traditional examiner training: Curriculum based

- Traditional (in-house) training is/was often **on the job** and **curriculum based**:
  - Examiner works on pending cases supervised by mentor (experienced examiner)
  - Examiner attends series of training 'courses' on variety of topics (curriculum)
  - Organized often as class-room type learning (face to face)
  - Following a **curriculum**: schedule of courses on different topics
  - 'Courses' present relevant information, sometimes including practical exercises, case studies,..
  - Course content often left to lecturers, trusting their experience
  - Knowledge/skills gaps often filled by learning on the job (asking the mentor)
  - Often without systematic assessment of learning success
  - Success of learning often "assessed" on the job
  - Mostly organized exclusively with in-house resources

- Practiced at major IPOs, emerging IPOs

"70/20/10" learning model (1996)

- Based on a survey among successful managers conducted by Center for Creative Leadership (CCL)
- It was estimated that competencies were (roughly) acquired by learning :
  - 70% from challenging assignments (on the job; experimental)
  - 20% from developmental relationships (mentor, coach)
  - 10% from **coursework and training (curriculum)**

IPOs: Examination and Training Capacities

- **Medium size office** (Size <> Number of examiners <> Number of applications to be treated)
  - Capable of organizing examiner **training**, i.e. in-house trainers and resources available (IPET)
  - Capable of conducting stand-alone substantive **examination**
  - Supplementary external training support may be welcome (technology specific, on the job)

- **Small office**
  - Not capable of organizing examiner **training** (staff development)
    - Depending mostly on external training support
    - “Train the trainer” not applicable
  - Not capable of conducting stand alone substantive **examination**
  - Strong impact of any staff turnover
    - Recurrent training need

Small IPOs

- **Under-resourced** in many respects
  - Number of substantive examiners
  - Technical fields coverable
  - Access to examination tools
  - HR management (staff development)
  - Examiner training depends on externally provided opportunities
- Rarely conducting stand-alone substantive examination or not capable at all
- Depending on outsourcing or (passive) work-sharing, i.e. utilization of external examination work products available for members of patent family
- Examiner "**job descriptions**" different in comparison to bigger IPOs
  - Emphasis on work-sharing (utilization of external work products)
  - Basic prior art search techniques
  - Advisory services, e.g. patent drafting for applicants
  - Further activities, e.g. promoting patent system, teaching IP,..

Competencies needed

- No "one fits all" approach
- Different examiner competencies required depending on
  - How an office organizes substantive examination
    - Stand alone substantive examination (middle to large offices)
      - IPET, RPET: (more) emphasis on prior art search skills
    - Outsourcing (small offices): emphasis on outsourcing and work-sharing skills
  - Access to search tools
  - Additional skills needed for further activities like IP promotion, advisory services for applicants, …

Competency model/framework/dictionary

- Competencies derived from/related to job descriptions: "job deliverables"
- Different categories
  - Behavioral, e.g. communication, managing,..
  - Technical competencies

IP Rights Examiner Program (IPREP)

- 3 Stages with a progression point at the end of each stage
- 3 Skill Sets
  - Examination Skill Set
  - Communication & Decision Making Skill Set
  - Workplace and Administrative Skill Set
- At the end you get Acceptance Delegation

- To attain/demonstrate a specific technical competency, a set of distinct
  - **skills** and
  - **knowledge** elements is required

Communication

Definition	**Effectively receives and conveys ideas and information (verbal and/or written) in a way that increases the understanding of the target audience.**			
Behavioural Indicators				
Level 1: Basic **Communicates clearly to others**	**Level 2: Capable** **Communicates effectively to a wider audience**	**Level 3: Proficient** **Adapts language and content to the audience**	**Level 4: Very Proficient** **Conveys and receives complex messages**	**Level 5: Mastery** **Develops influential communication strategies**
Effectively prepares brief documents (e.g. email, letters, standard forms, etc.). Conveys messages to individuals in a clear and concise manner.	Presents ideas, proposals, concepts and other information with clarity. Expresses one's own opinion appropriately. Writes documents (e.g. summaries of meetings) that are comprehensive, yet concise, combining information from various sources, as required.	Actively listens and verifies own understanding of the issue. Asks open-ended questions to encourage others to share their views/opinions. Anticipates audience needs and concerns and adapts content, style, mode and tone accordingly. Provides tactful feedback. Writes documents on specific issues, combining information from multiple sources.	Prepares a range of written documents such as briefing notes or lengthy reports. Effectively uses multiple methods to ensure understanding of groups' input, for example, meetings, individual conversations, reformulation technique etc. Clearly communicates multifaceted, abstract information with the aid of data (e.g., program evaluations, cost / benefit studies, etc.).	Identifies appropriate communication strategies to communicate with a diversity of people for the purposes of education or information, with high impact. Understands the needs of the audience, reading beyond what has been communicated, and builds on others' responses in order to formulate strategy. Effectively presents complex messages in ways that diverse audiences can understand. Able to interpret conflicting and sometimes contradicting verbal and non-verbal signals from the audience.
** ***Communication*** ***links to the TBS Core Competency*** ***Working effectively with others***.				

RPET CM sample: examination skills

5. Consider unity of invention	The examiner assesses unity of invention in uncomplicated examples.	The examiner demonstrates effective application of unity of invention in more complex generic, and technology- specific examples.	The examiner demonstrates thorough understanding and application of the concept of unity of invention when analysing increasingly complex real technology specific cases. PQS 3.2.1 PQS 4.1, 5.1	The examiner consistently and independently identifies unity of invention., and able to categorise the invention into appropriate groups. Any relevant objections are fully justified.
6. Consider industrial applicability	NOT COVERED IN PHASE A	The examiner demonstrates effective application of PCT criteria for industrial applicability in a mixture of technology-specific and more complex generic examples.	The examiner demonstrates a thorough understanding and application of PCT criteria for industrial applicability when analysing increasingly complex real technology specific cases. PQS 2.3.3 PQS 4.1, 5.1	The examiner consistently, accurately and independently checks whether inventions satisfy PCT criteria for industrial applicability. Any relevant objections are fully justified.
7. Determine if novelty exists	The examiner assesses novelty in simple example cases.	The examiner determines novelty in increasingly complex generic and simple technology-specific cases.	The examiner consistently applies his/her knowledge of novelty to increasingly complex real technology specific cases, and provides appropriate justifications for any objections. PQS 2.3.1 PQS 4.1, 5.1	The examiner consistently and accurately analyses prior art documents to assess whether each and every claimed element has been disclosed to a PSA by the priority dates. The examiner also consistently gives appropriate justifications for any relevant objections.

Competencies

Sample: RPET competencies (technical skills)

- Interpret specifications in accordance with rules of construction
- Consider the description
- Determine the invention
- Determine the scope of claims
- Consider clarity
- Consider clear and complete disclosure and full support
- Consider excluded subject matter
- Consider unity of invention
- Construe the scope of each claim (with regard to novelty and inventive step)
- Consider industrial applicability
- **Develop an effective search strategy**
- **Conduct online search**
- Determine relevant prior art
- Undertake appropriate record keeping

Curriculum based

RPET competencies

- Develop an effective search strategy

- Conduct online search

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Sample syllabus: WIPO Academy DL318

Advanced course on patent information searching

Module 3: Techniques for searching patent documents

Learning outcomes. On successful completion of this module, students will be:

- aware of the range of patent and non-patent literature search databases available – free and commercial
- aware of the ASPI program and the ARDI, Hinari, AGORA, and OARE programs in the Research4Life partnership, which provide developing countries with free or low cost access to commercial databases
- able to apply the following techniques when searching:
  - truncation
  - Boolean logic
  - proximity searching
  - field searching
  - phrase searching
- able to explain the advantages of using the International Patent Classification system (IPC) and the Cooperative Classification system (CPC), and carry out searches using these systems
- able to explain the uses of patent family searches and carry out such searches

Sample: self assessment questionnaire

Search methodologies			
Perform a 'fielded' search ('search forms')			
Explain what 'structured data' are			
Perform a command query search			
Use Boolean operators			
Use truncation			
Explain stemming in comparison to truncation			
Use proximity operators			
Use nesting and the hierarchy of operators			
Search for phrases			
Use field identifiers			
Search documents published between two given dates (date range)			
Determine classification codes through keyword searches for patent documents			
Search keywords and/or classifications in one query			
Search all patent publications of a given county published before a given date and having two different keywords or their synonyms as well as their plurals in the abstract, and being classified in an IPC main group or all its subgroups			
Explain what the 'recall' and the 'precision' of a search query are			
Refine a search strategy to increase recall			
Refine a search strategy to increase precision			
Explain effects of keyword searching in different parts of the document and the impact on recall and precision			
Explain the concept of family reduction			
Test if a database applies family reduction to a result set			

What level of detail is sufficient?

What granularity is needed?

Why competency frameworks/models?

- Isn’t curriculum based training management sufficient?
- Why would one need a more detailed skills and knowledge set?

Constraints of WIPO organized training

- WIPO organized training
  - has to avail itself of training activities and resources provided by variety of donors
  - *no or limited control of number of participants (currently)*
  - *no or limited control of who is nominated, if prerequisites are defined and met*
  - *no or limited control of syllabi, i.e. skills/knowledge covered by each course etc.*
  - *no or limited success of learning assessment through donors*

- WIPO trainees cannot be trained as members of a class. Their training will have to be **managed and monitored fully individually**. Trainees may be assigned to
  - training activities covering non standardized sets of competencies;
  - at different times whenever openings become available, and
  - depending on whether certain prerequisites (WIPO and donor defined) are met.

- Similar constrictions apply if a small Office attempts to organize training with external support.

What we want to avoid

IPO Workshop on Patent Law and Examination, March 8 to 17, 2016 and On-The-Job Training Pilot Program, March 21 to 25, 2016 – December 8, 2015 3.

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7. Participants:

A. Up to 20 participants will be invited from the following countries:

(a) Ten participants from Asia: Bangladesh (2), Mongolia (2), Myanmar (2), Pakistan (2), Viet Nam (2);
(b) Four participants from Central Asia: Kazakhstan (2), Uzbekistan (2);
(c) Two participants from the Arab region: Bahrain (1), Egypt (1);
(d) Two participants from Africa: Kenya (1), African Regional Intellectual Property Organization (ARIPO) Zimbabwe (1); and
(e) Two participants from Latin America: Colombia (1), Peru (1)

The participants are expected to be patent examiners or patent trial examiners with desirably, at least two years of substantive examination experience.

What we want to avoid

Can provide only basic orientation !

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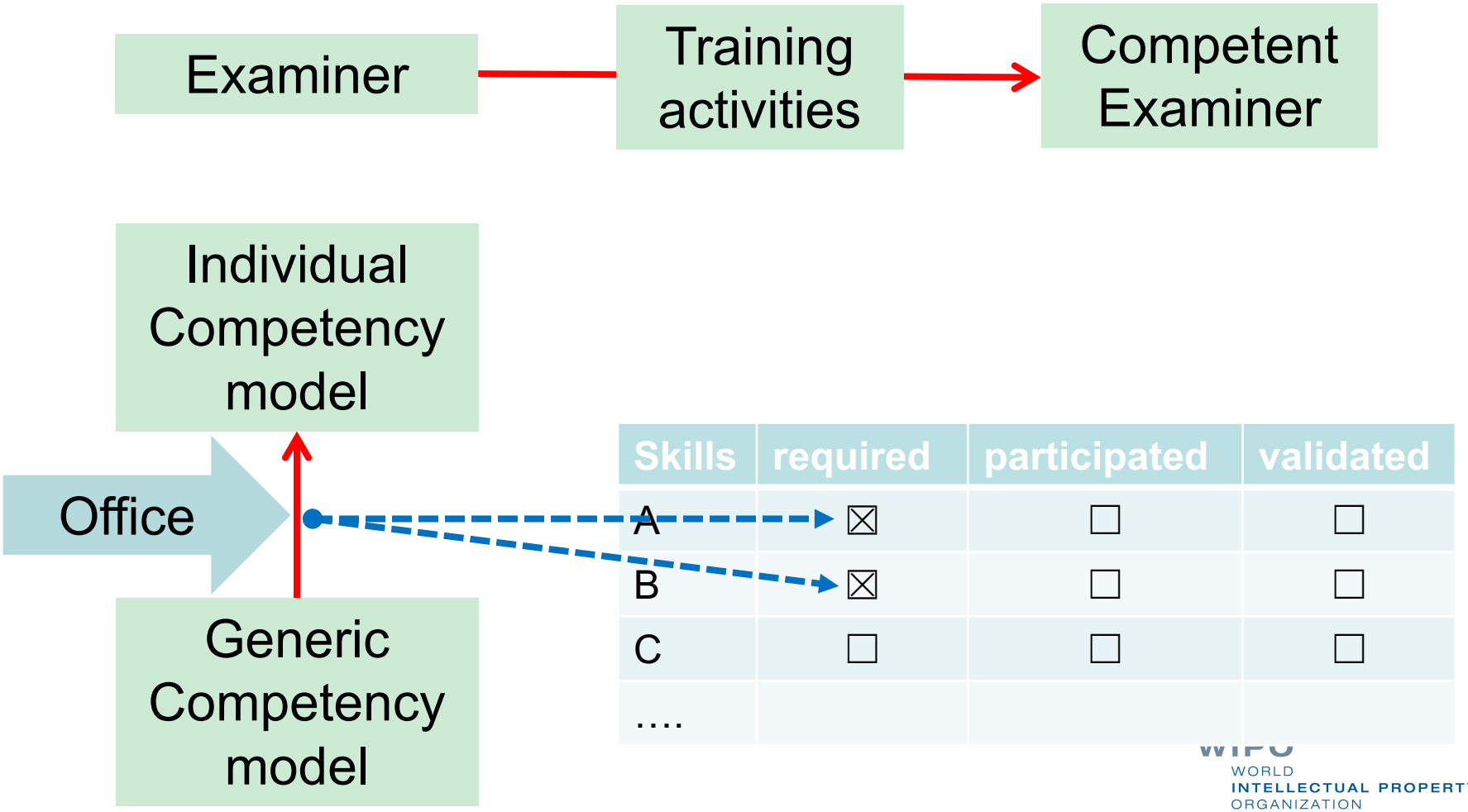
Individualized learning management (ASPAC)

Objective of examiner training management:

- Assure that each examiner **trainee** attains **all desired competencies**
  - To be defined by an **individual competency model**
  - by **tracking** participation in relevant training opportunities, in particular
  - By **tracking** competencies/skills/knowledge acquired thereby
    - (optionally) **Assessing** success of learning (validating)
  - by **assigning** suitable and available training opportunities
  - thereby assuring efficient use of training opportunities provided by donors by avoiding
    - redundant/duplicate participation
    - inefficient participation if prerequisites for participation are not met

Individual competency model



Why do we need detailed competency models?

- Sufficiently detailed competency models/frameworks facilitate, in standardized manner,
  - Define individualized competency models
  - Communication of training needs
    - From beneficiary to provider/WIPO & WIPO to provider/donor
  - Definition of prerequisites for training activities (by provider)
  - Description of course content (by provider) (syllabus)
  - Standardized tracking of training progress in terms of competencies
    - Participation
    - Success of learning
  - Reporting

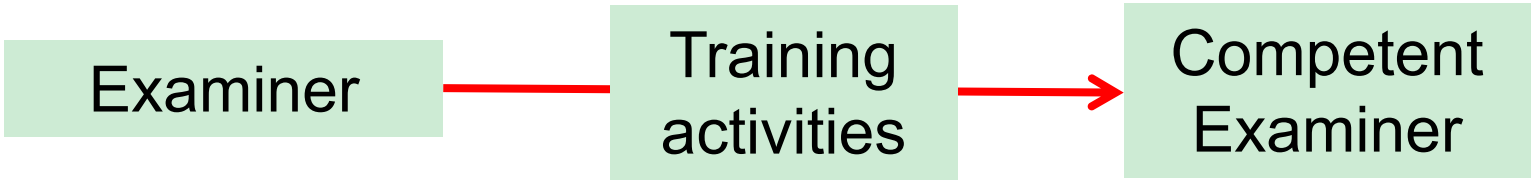
Individualized learning management (ASPAC)

Objective of examiner training management:

- Assure that each examiner **trainee** attains all desired competencies as defined by the applicable **individual competency model**
  - by **tracking** participation in relevant training opportunities, in particular
  - By **tracking** competencies/skills/knowledge acquired thereby
    - (optionally) **Assessing** success of learning (validating)
  - by **assigning** suitable and available training opportunities

→ Learning Management System (LMS)

Defining individual competency model



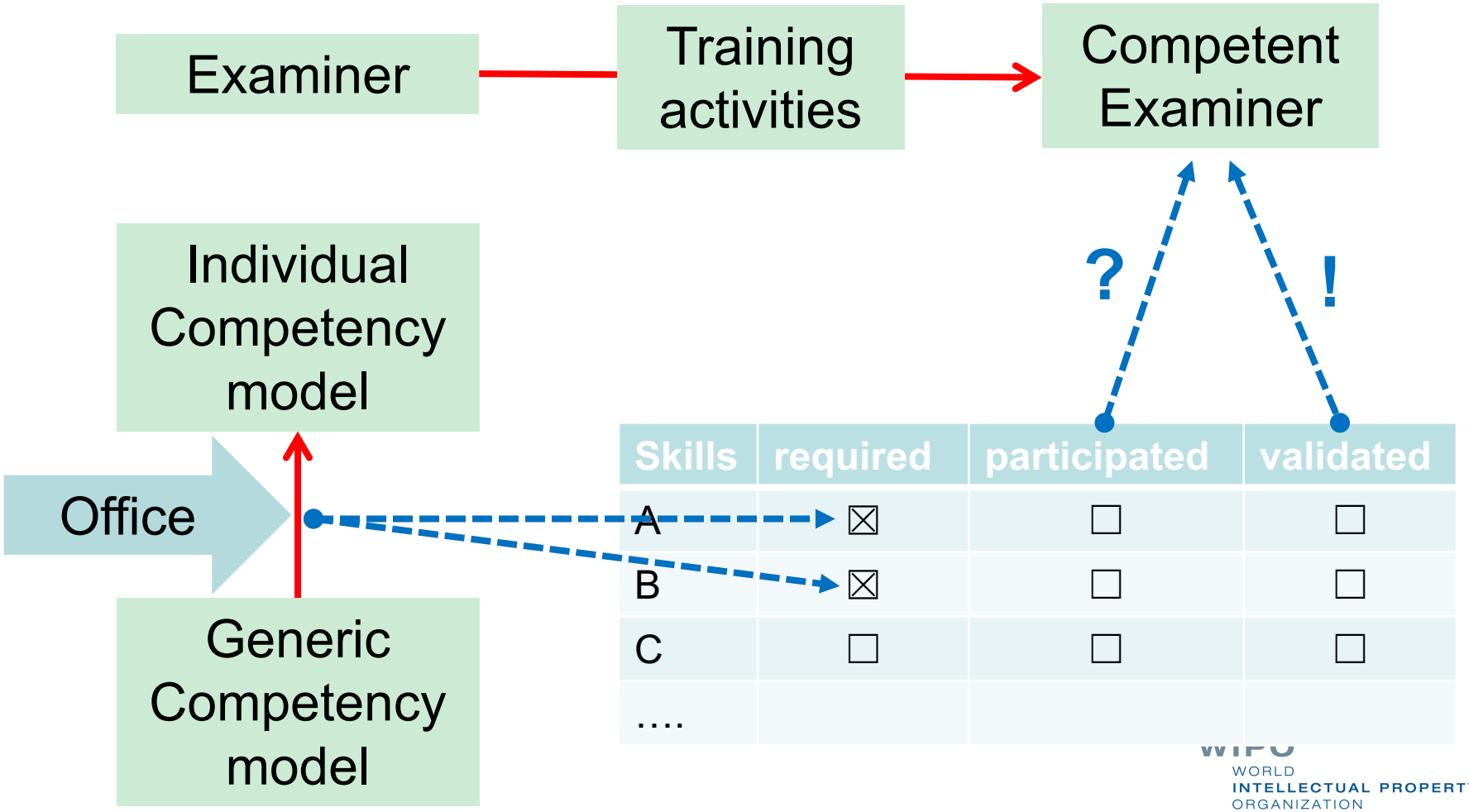
Individual Competency model

Office

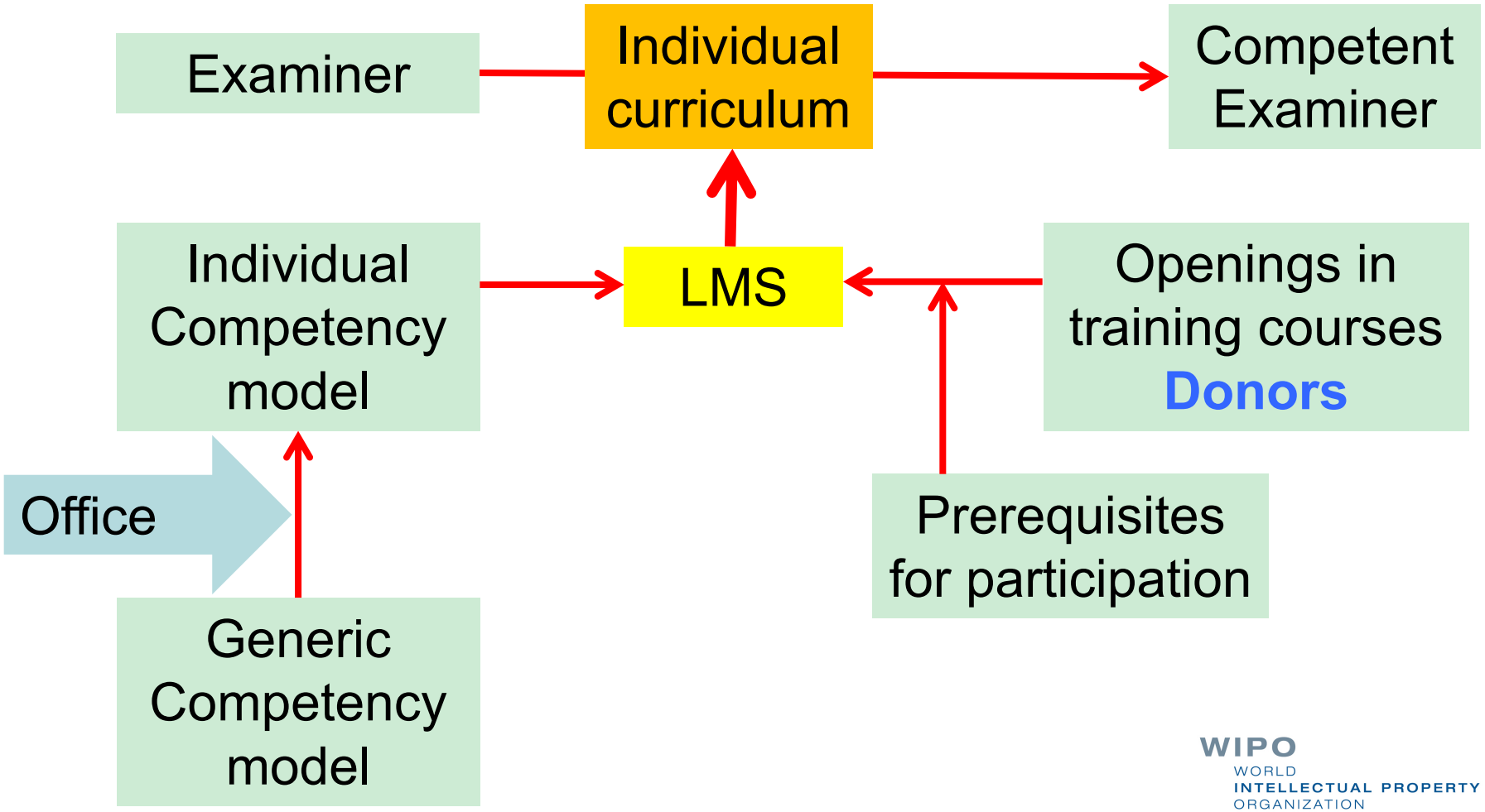
Generic Competency model

Skills	required	participated	validated
A	☒	☐	☐
B	☒	☐	☐
C	☐	☐	☐
….			

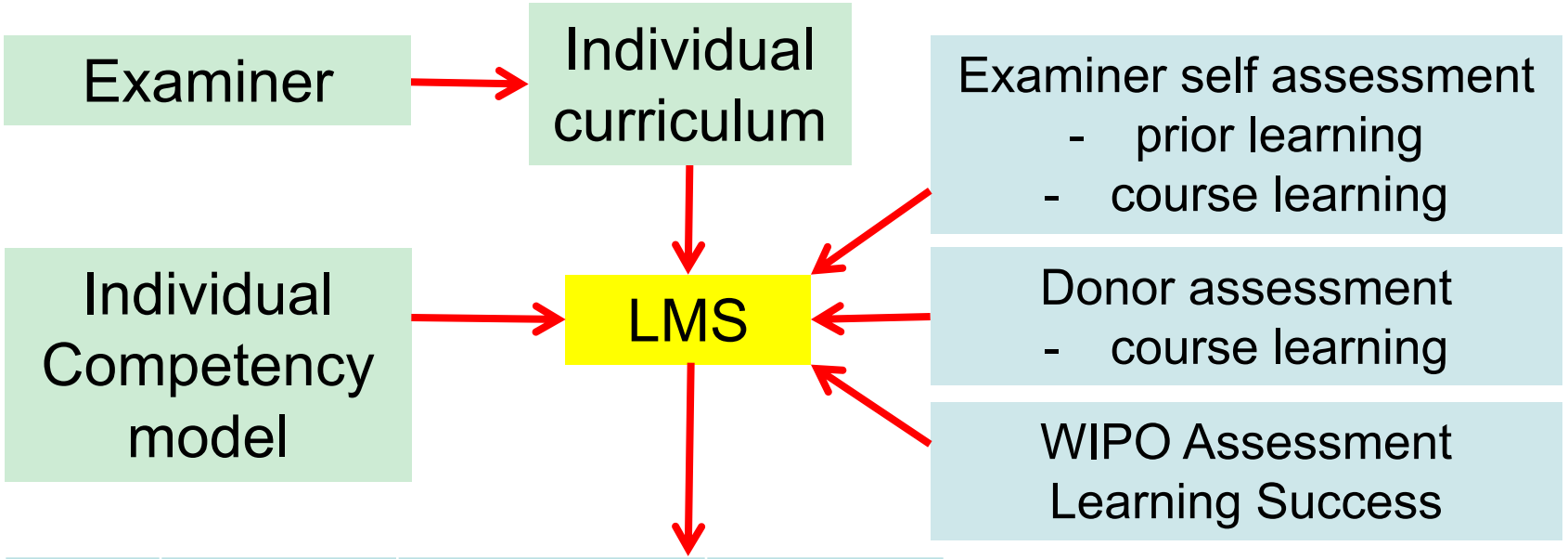
LMS: recording and tracking



LMS: Managing course assignment



LMS: Tracking Learning Progress



Skills	required	participated	validated
A	☒	☒	☐
B	☒	☒	☒
C	☐	☐	☐
….			

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Learning Management Systems in general

- Manage delivery of individual courses (WIPO distance learning courses)
- Develop course content

- NOT INTENDED!

Objectives of workshop

- Discuss/agree on aspects of **comprehensive** and **flexible** competency framework suitable for
  - Any size of office
  - Any patent law/regulations
  - Any workflow/patent procedures
  - Covering wide range of tasks in addition to substantive examination
  - Catering to various job descriptions of examiners
- Cooperation to develop such framework
- Explore testing/applying competencies
- Explore needs for Learning Management System
- Explore participation in WIPO's training management

- No development of training content

Thank you

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