

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
30 March 2006 (30.03.2006)

PCT

(10) International Publication Number
WO 2006/034029 A3

- (51) International Patent Classification:
G09B 19/04 (2006.01)
- (21) International Application Number:
PCT/US2005/033155
- (22) International Filing Date:
16 September 2005 (16.09.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/522,340 16 September 2004 (16.09.2004) US
11/162,520 13 September 2005 (13.09.2005) US
- (71) Applicant (for all designated States except US): **INFOTURE, INC.** [US/US]; 2060 Broadway, Boulder, co 80302 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **PAUL, Terrance** [US/US]; 2060 Broadway Street, Boulder, Colorado 80302 (US).
- (74) Agent: **BURTON, Carol, W.**; Hogan & Hartson, LLP, 1200 17th Street, Suite 1500, Denver, CO 80202 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

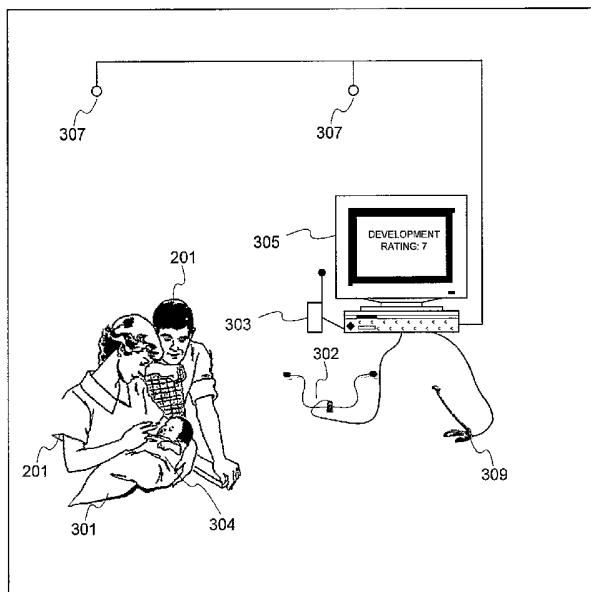
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
18 May 2006

[Continued on next page]

(54) Title: A SYSTEM AND METHOD FOR SUPPORTING LANGUAGE DEVELOPMENT



(57) Abstract: A method of supporting vocabulary and language learning by positioning at least one microphone (302, 304, 307, 309) so as to capture speech in the listening environment of a learner. The microphone (302, 304, 307, 309) is monitored to develop a speech signal. The speech signal is analyzed to determine at least one characteristic of the speech or vocalization, wherein the characteristic indicates a qualitative or quantitative feature of the speech. The determined characteristic is compared to a preselected standard or such characteristic is tracked to show growth over time and the comparison or growth is reported to the person associated with the speech signal (301) or person (201) who potentially can affect the language environment of the learner.

WO 2006/034029 A3



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/33155

A. CLASSIFICATION OF SUBJECT MATTER

IPC (8): **G09B 19/04** (2006.01)

USPC: 434/185

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 434/185

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,725,198 B2 (WARYAS et al) 20 April 2004, See entire document.	
X	US 6,732,076 B2 (MASTERSON et al) 04 May 2004, See entire document.	1-5, 7, 12-13
Y	US 5,873,728 (JEONG) 23 February 1999, See entire document.	6,10
Y	US 6,336,089 B1 (EVERDING) 01 January 2002, See entire document.	8
Y	US 6,212,502 B1 (BALL et al) 03 April 2001, See entire document.	11
Y	US 6,123,548 A (TALLAL et al) 26 September 2000, See entire document.	9

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 19 February 2006 (19.02.2006)	Date of mailing of the international search report 15 MAR 2006
--	--

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer <i>FOR</i> Chanda L. Harris <i>Jugimica Libby</i> Telephone No. 703-308-1148
---	--

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US05/33155

The inventions listed as Groups II and IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group II lacks the same or corresponding special technical features found in Group IV including, but not limited to, a sound processor coupled to a sound capture component and operable to analyze a sound signal from the sound capture component and identify characteristics of captured sounds.

The inventions listed as Groups II and V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group II lacks the same or corresponding special technical features found in Group V including, but not limited to, a speech processor coupled to a speech capture component and operable to analyze captured vocalizations and utterances identifying characteristics of the captured vocalizations and utterances.

The inventions listed as Groups III and IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group III lacks the same or corresponding special technical features found in Group IV including, but not limited to, a sound processor coupled to a sound capture component and operable to analyze a sound signal from the sound capture component and identify characteristics of the captured sounds.

The inventions listed as Groups III and V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group III lacks the same or corresponding special technical features found in Group V including, but not limited to, a speech processor coupled to a speech capture component and operable to analyze captured vocalizations and utterances and identifying characteristics of the captured vocalizations and utterances.

The inventions listed as Groups IV and V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group IV lacks the same or corresponding special technical features found in Group V including, but not limited to, a speech processor coupled to a speech capture component and operable to analyze captured vocalizations and utterances and identifying characteristics of the captured vocalizations and utterances.

Continuation of B. FIELDS SEARCHED Item 3:
EAST
search terms: compare, frequency, conversation

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/33155

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-13

- Remark on Protest**
- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
 - The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
 - No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US05/33155

BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

Group I, claim(s) 1-13, drawn to a method of supporting language development.

Group II, claim(s) 14-19, drawn to a method of supported learning.

Group III, claim(s) 20, drawn to a method for teaching vocabulary.

Group IV, claim(s) 21-30, drawn to a system for supporting language acquisition.

Group V, claim(s) 31-38, drawn to a system for assessing the language development of children and adults.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group II lacks the same or corresponding special technical features found in Group I including, but not limited to, comparing a determined characteristic to a preselected standard or change over time.

The inventions listed as Groups I and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group I lacks the same or corresponding technical features found in Group III including, but not limited to, feeding back information about the indirect teaching of the vocabulary words to the student, and/or third party involved in the direct teaching.

The inventions listed as Groups I and IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group I lacks the same or corresponding special technical features found in Group IV, including but not limited to, a sound processor coupled to the sound capture component and operable to analyze a sound signal from the sound capture component and identify characteristics of the captured sounds.

The inventions listed as Groups I and V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group I lacks the same or corresponding special technical features found in Group V including, but not limited to, a speck capture component operable to capture vocalizations and utterances of people in natural settings and a speck processor coupled to the speech capture component and operable to analyze captured vocalizations and utterances identifying characteristics of the captured vocalizations and utterances.

The inventions listed as Groups II and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group II lacks the same or corresponding special technical features found in Group III including, but not limited to, feeding back information about indirect teaching of vocabulary words to a student and/or third party involved in direct teaching.