

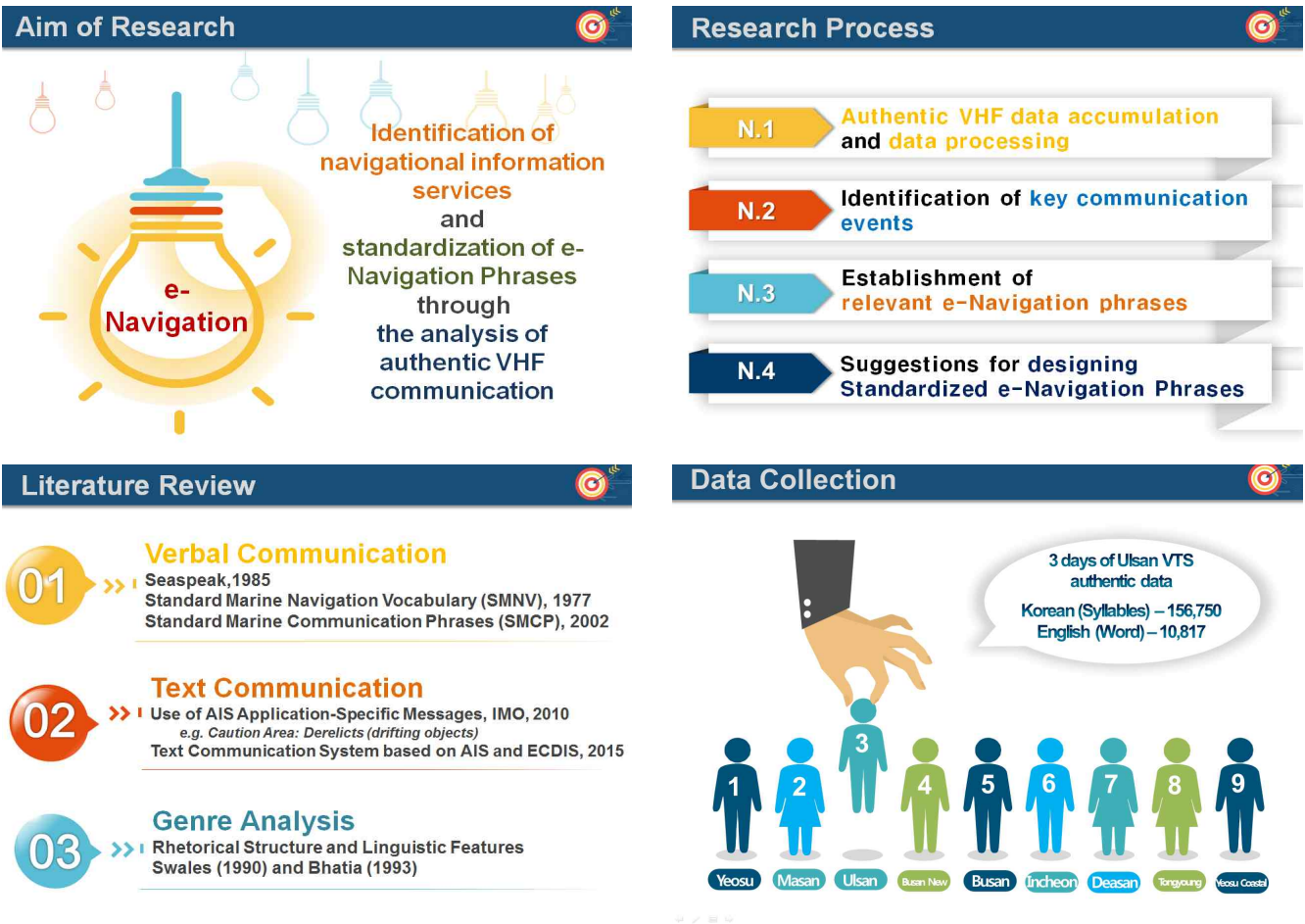
Development of Standard e-Navigation Phrases

최승희* · † 장은규

*한국해양수산연수원 미래정책팀 조교수, † 한국해양수산연수원 교육운영팀 교수

Abstract : As the era of e-navigation begins, the significance of harmonized collection, exchange, and integration of marine information conventional “ship-to-ship” and “ship-to-shore”/“shore-to-ship” has become more significant in ensuring safety and security at sea. This research aims to provide an internationally applicable list of Standard e-Navigation Phrases (SENP) for communication in the e-Navigation environment, along with practical approaches to this. For this purpose, the importance of standardized communication phrases specific to e-Navigation will first be illustrated. In order to approach the e-Navigation phrases in a practical and pragmatic manner, means of compiling and processing authentic VHF linguistic data accumulated from one of the Korean ports, Ulsan, will be detailed. In addition, major outcomes to be considered in designing SENP will be suggested. Finally, future actions and a joint effort for the standardization of e-Navigation phrases among stakeholders will be sought.

Key words : e-Navigation, Standardized Phrases, Authentic VHF Communication Data, a List of Standard e0Navigation Phrases



† 교신저자 : 종신회원, sirius@daum.net

* 종신회원, eng1017@daum.net

This research is a part of the project titled “SMART-Navigation project,” funded by the Ministry of Oceans and Fisheries.

Data Transcription – 1st stage

An Example of Transcription Detailing Pilot Boarding Time

Station	Transcript
Vessel	Ulsan VTS, Ulsan VTS, [ship's name]
Ulsan VTS	Calling station, Ulsan VTS.
Vessel	Good morning, Madame. May I know what time pilot will be boarding?
Ulsan VTS	Do you have call sign?
Vessel	My call sign, [call sign].
Ulsan VTS	Ok, today, morning, 0630.
Vessel	30 and boarding arrangement?
Ulsan VTS	1 hour before. Contact channel 13 please.
Vessel	Channel 13, okay.

Categorization of VHF Communication

Macro Category	Category	Code	No. of cases	%	No. of turns		Definition
					VTSO	Onboard	
Pilotage	Pilotage	PL	26	1.09	95	109	Requesting pilotage information
	Embarkation	EB	110	4.62	248	301	Embarking pilot
	Disembarkation	DE	46	2.02	51	78	Disembarking pilot
	Vessel Pilot	SP	26	1.09	4	122	Radio communication between pilot and vessel
Subtotal			210	8.83	398	610	
Leaving/Departing from the port	Arrival	AR	160	6.73	401	537	Entering the VTS area for berthing
	Berthing	BR	106	4.46	213	299	Reporting after or requesting information on berthing
	Departure	DP	197	8.28	445	611	Leaving the VTS area after unberthing
	Unberthing	DB	114	4.79	255	341	Reporting before or requesting information on unberthing
Subtotal			577	23.24	1314	1788	Moving to different areas within the port (e.g. for work)
Anchoring	Anchor report	AC	109	4.58	240	323	Completing anchoring
	Anchorage information	AR	139	5.84	445	522	Requesting and providing information on anchorage
	Heaving up anchor	HU	77	3.24	181	233	Requesting and finishing heaving up anchor
Subtotal			325	13.7	866	1078	
Navigational information	Reporting/passing	RP	176	7.4	441	559	Passing through the reporting line or buoy
	Crossing	CR	95	3.99	216	295	Requesting and reporting on crossing the fairway
	Instructing	IN	125	5.25	361	367	Providing navigational instruction to vessels from VTS
	Safety navigational information	SI	142	5.97	376	431	Safety-related communication, such as navigational information on other vessels or traffic situations
Subtotal			538	22.6	1455	1653	Radio communication between vessels
Extra communication	Communication failure	CF	301	12.7			No response to call
	Other uncategorized communication	UC	158	6.64			Chatting or unable to be categorized (e.g., requesting information about other vessels' phone numbers, or launching lifeboat for fun)
	Unintelligible	UT	37	1.56			Unable to categorize due to unintelligible recording condition
Subtotal			496	20.8			
Grand Total			2,379	100.0			

Data Transcription – 2nd stage

An Example of Transcription Detailing Pilot Boarding Time

Turn	Speaker	Transcription	Move	Step	Strategy
1	S1	Ulsan VTS, Ulsan VTS	Call	First contact	Call to VTS
	S2	[Ship's name]	Call	First contact	Report Ship's name
2	V1	Calling station, Ulsan VTS.	Call	First contact	Response to S
3	S1	Good morning, Madame.	Call	Greeting	Morning
	S2	May I know what time pilot will be boarding?	Pilotage	Request information	Pilot boarding time
4	V1	Do you have call sign?	Ship's identification	Request information	Call sign
5	S1	My call sign, [call sign].	Ship's identification	Provide information	Call sign
6	V1	Ok, today, morning, 0630.	Pilotage	Provide information	Pilot boarding time
7	S1	30.	Pilotage	Receipt of information	Pilot boarding time
	S2	And boarding arrangement?	Pilotage	Request information	Pilot boarding arrangement
8	V1	1 hour before.	Pilotage	Provide information	Contact time
	V2	Contact channel 13 please.	Pilotage	Provide information	Contact Channel
9	S1	Channel 13, Ok.	Pilotage	Receipt of information	Contact channel

Three major findings



Linguistic Patterns for Designing Standard e-Navigation Phrases

- 네, 선미쪽으로 해서 올라가십시오.
- 귀선이 선미로 조금 하세요.
- 선미로 좀 통과하십시오.
- 그러니까 그 선박 선미쪽으로 통과 부탁드립니다.
- Pass stern side, pass stern side.
- Pass her stern side.

SMCP:
Advise you pass astern of MV X.

K-SMCP:
X선의 선미로 통과하십시오.

SENP:
Advice. Pass astern of MV X.

K-SENP:
X선의 선미 통과 요망

Future Suggestions

- Additional ports should be considered in the future to enhance the validity of the research
- SENP should be established in both English and local languages
- Clarity, effectiveness, cross-cultural factors and different situational perceptions among individuals should be negotiated
- International cooperative research should be conducted for mutually agreeable, beneficial, and practical output